

# Converging Forces

## *Too Many Tasty Foods, No Time for Exercise*



America faces a health crisis unlike any in our history. The crisis does not center on a particular disease but is a product of our behavior. Americans are taking advantage of the inexpensive, abundant, and tasty foods available to them and the many technological gadgets that make life less labor intensive. The result is Americans are eating more and moving less nowadays than in past years.

According to the Centers for Disease Control and Prevention, 3 in 10 Americans are obese and nearly two-thirds are overweight. Obesity rates have increased over time: from 17 percent in the 1960s, to 23 percent in the 1990s, to 31 percent now. More alarming, our children appear to be gaining weight at a faster rate. Along with the increase in obesity comes an increase in related health problems (diabetes, heart attacks, and strokes) and medical costs.

The dangerous situation our Nation now confronts has been emerging for more than a century. It is the result of massive societal changes, remarkable advances in technology, and the steady growth of our national economy. The challenge we policymakers now face is how to reverse the weight gain crisis while, at the same time, not infringing on individual freedom of choice of food intake and physical activities.

The U.S. Departments of Agriculture and Health and Human Services recognize the dilemma and recently cosponsored the National Obesity Prevention Conference, bringing together a wide range of disciplines to put the obesity prevention issue on a sound scientific basis. Food choices, nutrition and diet, physical exercise, human behavior, new food products, socioeconomic factors, education, and policy prescriptions were all covered. The conference was a unique opportunity to begin developing effective solutions to challenges presented by the obesity crisis – solutions that promise not only to improve, but to actually save thousands of lives each year through effective prevention measures.

One consensus that emerged from the conference: No magic or simple solution exists. Progress will be slow but it will come, one small step at a time. The scientific community will contribute with new advances, information, and insights on the complex relationship among food, eating behavior, nutrition, and health. The food industry will develop new foods that are tasty and healthy. Economists will help us better understand the costs associated with poor food choices. Physical exercise professionals will develop activities that people can fit into their busy lifestyles. Federal and local governments will partner and provide resources. Nevertheless, the most important factor of all is the determination of the American people to overcome the converging forces of poor diets and lack of exercise.

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The great diversity across States in farming circumstances and policy preferences suggests that tailoring farm programs to local circumstances may be more efficient. Devolution, or the transfer of control over Federal funds to States, is one way of adapting national policies to suit local preferences more closely.

USDA farmland retirement programs aim to preserve natural resources. But while their benefits to the environment and crop farmers are widely acknowledged, some fear that high levels of farmland retirement threaten the survival of nearby farming communities. A new ERS analysis suggests such fears are unfounded.

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## FINDINGS



## Grain Exports From the Black Sea: How Large?

From 1996 to 2000, annual net grain exports from the former Soviet Union (mainly Russia, Ukraine, and Kazakhstan) and other transition countries in the Black Sea region (Romania, Bulgaria, and Serbia) averaged only about 7 million metric tons. The exports were far short of forecasts made by Western analysts when these countries began their major economic reforms in the late 1980s and early 1990s. In 2001 and 2002, grain export levels from the Black Sea area shot to 25 million and 33 million tons, accounting for 12 and 15 percent of total world grain trade. Many thought the large exports signaled the arrival of the region as a formidable grain-export area. Optimism was dimmed, however, by a severe drop in grain production in 2003.

Early expectations of high exports from the region grew out of an assumption that the countries' transition from centrally planned to market-based economies would trigger huge gains in productivity. During the Communist period, these countries had much lower agricultural productivity than Western countries, such as the United States, Canada, and Australia. Analysts expected that market-based reforms would reduce waste and raise productivity, substantially boosting grain output and exports. The countries bordering the Black Sea, however, have made less reform progress than Central European countries, such as Hungary, Poland, and the

Czech Republic. In Russia, Ukraine, and Kazakhstan, the virtually unreformed former state and collective farms inherited from the planned economy remain the main agricultural producers, along with small household plots tended by the farm workers. Agriculture in Romania, Bulgaria, and Serbia is largely in the hands of private farmers, but continues to be dominated by small, fragmented farms with low productivity.

Nature may have had more of a hand in the large 2001-02 grain exports by the Black Sea region than market forces. Very good weather for grains in those 2 years helped push average annual grain output in the region to 180 million tons, compared with 143 million

tons during 1996-2000. Disappointing (though not terrible) weather then dropped grain production back to 127 million tons in 2003, below the average for 1996-2000.

Even if the large growth in exports in 2000-02 was mainly the result of favorable weather conditions, the potential for market-induced growth in the coming decade is still strong. ERS model-generated forecasts show that if the Black Sea countries continue their current slow pace of reform, the region could become a medium-sized grain exporter of about 10 million tons a year by 2012-13. With more rapid reform and accelerated productivity growth, annual grain exports could be as high as 30-40 million tons, comprising 12-15 percent of world grain trade. Such export volumes would fulfill predictions that the region would become a major grain exporter. *W*

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**This finding is drawn from . . .**

*Black Sea Grain Exports: Will They Be Moderate or Large?* by William Liefert, Olga Liefert, Ralph Seeley, and Ed Allen, WRS-04-05-02, USDA/ERS, October 2004, available at: [www.ers.usda.gov/publications/wrs04/oct04/wrs040502/](http://www.ers.usda.gov/publications/wrs04/oct04/wrs040502/)

## China's Demand for Commodities Outpacing Supply

China has long sought to maintain self-sufficiency in the production of basic foods, but with its large population and rising living standards, China's demand for grains and oilseeds is outpacing its ability to produce them. China has already become the world's largest soybean importer and is expected to become a significant grain importer as well, with profound impacts on global commodity prices.

In recent years, China's grain production has lagged behind domestic demand, the result of unfavorable weather, loss of grain area to more profitable crops and urbaniza-

tion, removal of price supports for low-quality grain, and retirement of environmentally fragile land. Huge grain stockpiles accumulated during the late 1990s allowed China to avoid imports and to even export grains, but those reserves now appear to have been drawn down to critical levels. Sharply rising prices in late 2003 signaled tighter supplies in China at the same time that markets in the United States and other countries were also tightening. Chinese officials responded by restricting corn exports in 2004, purchasing wheat to replenish government reserves, and introducing direct subsidies for grain producers.

China has quietly become the world's largest importer of soybeans. Although soy-

based foods, such as tofu, have long been mainstays in the Chinese diet, it was only during the 1990s that demand for soybeans took off. Livestock producers began including more high-protein soy meal in animal feed rations, and Chinese consumers developed a taste for soy-based cooking oil. Demand outstripped China's production capacity, and China now relies on imports for more than half of its soybean use. China's demand has become a key factor in the world soybean market.

Chinese officials would prefer the country to rely less on imported grain and soybeans, but China cannot be self-sufficient in all food products. Boosting soybean production would entail a reduction of corn output since

The desire for specific attributes in agricultural products is making contracts the method of choice for moving products through the production and marketing system. These attributes cover everything from oil content in corn, which affects feed digestion, to the weight of market hogs, because uniform weights can reduce processing costs. Other examples include milk produced according to organic standards, or attributes tied to a product's delivery, such as a certain volume of peas provided during a specified time window, that can reduce processing costs and better meet consumer demands.

Buyers—processors, elevators, and retailers—use production contracts to control input choices and production methods. They also use marketing contracts that offer farmers price premiums for desired attributes. Farmers can benefit from contracting as well, in that contracts can reduce income risks, ease credit requirements, and provide higher prices for providing specific product attributes.

But there are downsides to contracting. Specific features of contracts, like requiring use of a specific feed ration, can limit farmers' decisionmaking freedom. Contracts can reduce volumes traded on spot markets (where individual buyers and sellers agree to a price at the time the product changes hands), thereby increasing price volatility and risks of trading in spot markets. They can also be structured to limit competition among buyers.

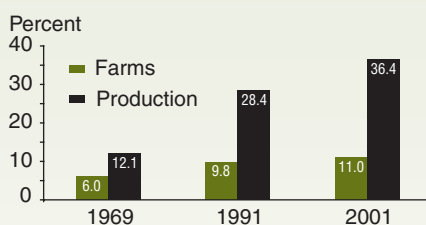
An observed expansion in contract use is closely tied to consolidation in agriculture. Among farms with at least \$500,000 in annual

## Contract Use Continues To Expand



Larry Lefever/Grant Heilman Photography

### Contracting covers a growing share of production



Sources: U.S. Department of Commerce, Bureau of the Census, 1969 Census of Agriculture; USDA, 1991 Farm Costs and Returns Survey; USDA, 2001 Agricultural Resource Management Survey.

sales, 61 percent used contracts for at least some of their production in 2001, compared with only 8 percent of farms with sales under \$250,000. Because most farms are small, only 11 percent of all farms used contracts in 2001, up from 6 per-

cent in 1969. But because large farms account for most agricultural production, contracts cover a large and growing share of production—36 percent in 2001, up from 12 percent in 1969 and 28 percent in 1991.

The use of contracts can spread rapidly through an industry. Virtually nonexistent in tobacco marketing in 1999, contracts covered half of 2001 production and almost 100 percent of 2002 production. In just 5 years, from 1996 to 2001, contract coverage grew from one-third to two-thirds of hog production, as spot markets commensurately diminished. By 2001, contracts covered 54 percent of cotton and 39 percent of rice production, compared with 30 percent and 20 percent, respectively, in 1991.

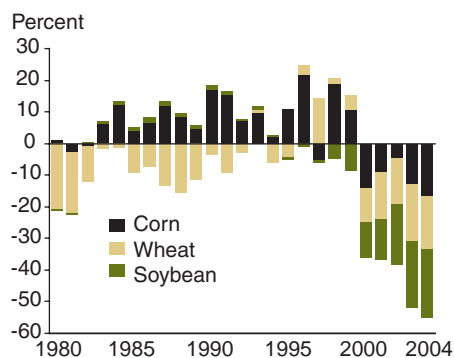
Growing demand for specific product attributes should lead to continuing expansion of contracting. In turn, spot markets will come under continuing pressure to adapt to the challenge posed by the contracting alternative, by providing better means of defining, measuring, and communicating product attributes. *W*

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### This finding is drawn from . . .

*Contracts, Markets, and Prices: Organizing the Production and Use of Agricultural Commodities*, by James M. MacDonald, Janet Perry, Mary Ahearn, David Banker, William Chambers, Carolyn Dimitri, Nigel Key, Kenneth Nelson, and Leland Southard, AER-837, USDA/ERS, November 2004, available at: [www.ers.usda.gov/publications/aer837/](http://www.ers.usda.gov/publications/aer837/)

### China's demand for corn, wheat, and soybeans outpaced supply since 2000



Note: Chart shows difference between production and estimated domestic use for each year.

Source: U.S. Department of Agriculture, World Agricultural Outlook Board, "World Agricultural Supply and Demand Estimates."

the two crops compete for the same land area. In 2004, officials sought to boost production of grains. Production did rise in response to higher prices, subsidies, and good weather, but low profitability, dwindling water supplies, and loss of farmland to urbanization will prevent China from attaining grain self-sufficiency. Chinese farmers could produce enough grain and soybeans to meet all of China's needs, but they would have to divert land from production of horticultural crops, orchards, livestock, and aquaculture, which earn much higher returns per hectare. *W*

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### This finding is drawn from . . .

*Is China's Corn Market at a Turning Point?* by Fred Gale, FDS-04C-01, USDA/ERS, May 2004, available at: [www.ers.usda.gov/publications/fds/may04/fds04c01/](http://www.ers.usda.gov/publications/fds/may04/fds04c01/)

*China's Wheat Economy: Current Trends and Prospects for Imports*, by Bryan Lohmar, USDA/ERS, WHS-04-D01, May 2004, available at: [www.ers.usda.gov/publications/whs/may04/whs04d01/](http://www.ers.usda.gov/publications/whs/may04/whs04d01/)

*China's Soybean Imports Expected To Grow Despite Short-Term Disruptions*, by Francis Tuan, Cheng Fang, and Zhi Cao, OCS-04J-01, USDA/ERS, October 2004, available at: [www.ers.usda.gov/publications/ocs/oct04/ocs04j01/](http://www.ers.usda.gov/publications/ocs/oct04/ocs04j01/)

# Taxing Snacks To Reduce Obesity

Salty snacks are an American favorite. Ninety-nine percent of U.S. households purchased some salty snacks, which include potato chips, corn chips, pretzels, tortilla chips, cheese puffs, microwave popcorn, and nuts, in 1999. On average, each U.S. household spent \$76 on 32 pounds of salty snacks. Backers of a proposed tax on snack foods argue that such a tax will improve diets and health by reducing consumption.

Selective taxation of particular food items is rare for the Federal Government. Now, some public health advocates and health researchers are proposing an excise tax on snack foods as a way to reduce the prevalence of obesity in the United States. Three variations on such a tax have emerged, each envisioning a different pathway toward improving consumers' diets and health. A tax imposed on snack foods that is paid by consumers would increase the price of snack foods and might give consumers an incentive to cut back on such items. A consumer-paid tax targeted at foods that contain particular unhealthy food attributes, such as saturated fat, might encourage food manufacturers to reformulate their products and offer consumers more healthful alternatives. The third variation involves earmarking the tax revenue to fund information programs promoting healthy diets and lifestyles.

Whether such a tax will change consumers' diets depends on how big an incentive the tax provides for consumers and how responsive consumers are to price increases. ERS researchers used ACNielsen Homescan panel data to examine likely impacts of taxes on consumers' dietary choices. Households providing the data recorded their food purchases from grocery stores and other retailers using in-home scanners.

While almost every household purchases some salty snack foods and would bear the burden of a tax, salty snacks constitute a minute share of the household budget. For example, the income group with the highest per capita expenditure on salty snack foods spent just 0.2 percent of its average \$37,500 annual income on salty snacks. With expenditure shares that small, snack food purchases will probably decline very little in response to tax-induced price increases.

## Nearly all households purchase salty snacks

Snacks	Share of households that purchased snacks	Average yearly quantity purchased by households that did purchase		Yearly expenditure by households that did purchase
	Percent	Pounds per household	Pounds per capita	Dollars
Potato chips	91.3	9.8	4.2	26.14
All chips	95.5	16.3	7.0	41.43
Other salty snacks <sup>1</sup>	96.8	16.5	7.9	37.41
All salty snacks	99.2	31.8	14.5	76.39

<sup>1</sup>Includes pretzels, microwave popcorn, cheese puffs, and nuts.  
Source: Tabulations from ACNielsen Homescan panel, 1999.

ERS researchers simulated tax impacts by using different measures of consumer responsiveness to prices and different tax rates. Relatively low tax rates of 1 percent and 1 cent per pound had negligible impacts on purchases of salty snack foods. For these cases, taxes would not appreciably alter diet quality or health outcomes. Tax revenues would, however, be positive—approximately \$40 million per year for the 1-cent-per-pound tax and above \$100 million for the 1-percent tax. **W**

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### This finding is drawn from . . .

*Taxing Snack Foods: What To Expect for Diet and Tax Revenues*, by Fred Kuchler, Abeyayehu Tegene, and J. Michael Harris, AIB-747-08, USDA/ERS, August 2004, available at [www.ers.usda.gov/publications/aib747/aib74708.pdf](http://www.ers.usda.gov/publications/aib747/aib74708.pdf)

"Taxing Snack Foods: Manipulating Diet Quality or Financing Information Programs?" by Fred Kuchler, Abeyayehu Tegene, and J. Michael Harris, *Review of Agricultural Economics*, Vol. 27, No. 1, Spring 2005, forthcoming.



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# Americans at Unequal Risk for Obesity

CREATAS

The well-publicized rising incidence of obesity in America is occurring among all population groups. Not everyone, however, is equally at risk of becoming overweight or obese, or at risk for the same reasons. Researchers at ERS have found that individuals who have not gone to college, women with lower incomes, single mothers, and men in rural areas are significantly more likely to be overweight or obese.

Variation in body weight is partially determined by our genes, but is also related to what we eat and how active we are. Individuals who exercise more frequently, watch less television, drink fewer sugary beverages, and eat a healthful diet are more likely to have a healthy body weight. Differences in attitudes about diet and health also correlate with weight differences. Compared with healthy-weight women, overweight and obese women are less likely to believe they have control over their weight. And overweight and obese men are less likely to assess their weight status accurately than healthy-weight men: nearly 60 percent of overweight and obese men consider themselves to be a healthy weight.

ERS researchers found that several socioeconomic factors, such as the level of

education, marital status, and the presence of children in the household, correlate with the food choices, activity levels, and health-related attitudes that affect body weight. For example, people with a college education eat a more healthful diet, watch less TV, drink fewer soft drinks, and skip breakfast less often. Women

with a college education have a greater feeling of control over their own weight and exercise more frequently. Married parents have a more healthful diet, skip breakfast less often, and drink fewer sugary beverages than single parents. Women who are married with children watch less television than women without children or single mothers. And, men with no children exercise more frequently than men with children.

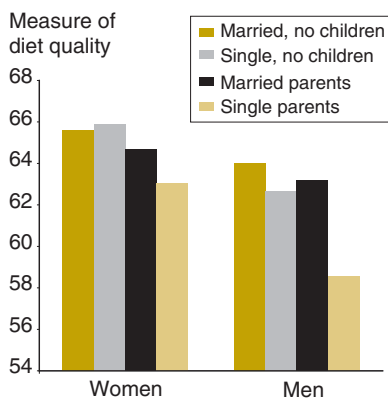
Insights from this study can suggest ways to tailor health education for specific individuals to promote changes in certain behaviors and attitudes. For example, encouraging busy single parents to incorporate frequent, but not necessarily lengthy, sessions of physical activity into their daily routine may be more effective than prescribing 30 minutes of continuous activity each day. Other groups of Americans could benefit from more tailored nutrition and exercise messages as well. *W*

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**This finding is drawn from . . .**

*The Role of Economics in Eating Choices and Weight Outcomes*, by Lisa Mancino, Biing-Hwan Lin, and Nicole Ballenger, AIB-791, USDA/ERS, October 2004, available at: [www.ers.usda.gov/publications/aib791/](http://www.ers.usda.gov/publications/aib791/)

## Diet quality varies with gender and household composition



Higher diet quality is associated with healthier body weight. Diet quality, measured on a scale of 0 to 100 (perfect score), reflects how closely an individual's diet conforms to the Federal Dietary Guidelines by consuming the recommended servings from each food group, while limiting consumption of fats, cholesterol, and sodium.

# How Do Decoupled Payments Affect Resource Allocations Within the Farm Sector?

The U.S. and other industrialized nations subsidize producers of certain farm commodities with payments linked to commodity prices and production levels. These subsidy programs, which in the U.S. originated in the 1930s, were designed to insulate producers from fluctuations in market prices and raise farm household incomes. Under such a system, however, producers base their planting decisions for the subsidized commodities—which ones to grow, how much acreage for each, and the intensity of cultivation—not only on information about market values or costs, but also on government payments. Thus, in responding to distorted market signals, farmers may produce a different mix of commodities than they would with no market distortions. In the United States, interest in market liberalization and obligations under multilateral trade agreements have prompted policymakers to design and implement less distorting government programs.

One step in that direction is to “decouple” farm income support from prices or production. Efforts to decouple farm income support in the U.S. began in the 1980s, but the most sweeping changes were introduced in farm legislation in 1996 and 2002. These decoupled payments—originally called pro-

duction flexibility contract (PFC) payments in the 1996 legislation—are lump-sum payments on eligible acres, where the per acre payments are based on historical plantings of program crops and yields, rather than on current market prices or production levels of the crops. Farmers have the flexibility to plant different crops or let their fields lie fallow, but face some land use restrictions. For example, acres enrolled in the program cannot be developed for nonagricultural uses.

Unlike coupled payments, decoupled payments directly change the income and wealth of a household, without distorting relative commodity prices. But questions about the payments’ impact on the farm business and farm household well-being remain. Specifically, how much income do farm operators who rent land retain from decoupled payments, net of what they pay to landowners in increased land rents? How do farm households receiving decoupled payments allocate their increased income among consumption, leisure (decreased work hours), savings, and investments for the farm and off-farm sectors? Under what circumstances might income from decoupled payments affect agricultural production as well as the nonagricultural activities of farm households?

ERS researchers used a household framework as well as household-level data from USDA’s Agricultural Resource Management Survey and the Census of Agriculture to analyze the effects of decoupled payments in two recent studies. A 2003 report described preliminary evidence that decoupled payments enhanced the well-being of participating farm households, enabling them to increase spending, savings, and investments with seemingly minimal distortion of U.S. agricultural production. A more recent report presents new analyses, including how land tenure arrangements influence the amount farm households receive from decoupled payments, and how decoupled payments influence markets for agricultural capital and labor.

## Land Rents Increase Less Than Per Acre Decoupled Payments

Approximately 60 percent of U.S. cropland enrolled in the PFC program in 1996 was leased by farm operators from nonoperator landowners. ERS research shows that, in 1992, a producer who rented cropland for cash paid a 21-cent premium per dollar of government payments received, while the same producer paid a 33-cent premium in 1997, 1 year after the PFC program went into effect. These findings suggest that decoupled payments had a stronger influence on land rental rates than do coupled payments, but also that the rise in land rents did not fully reflect the amount of government payments that a renter received. Most observers have assumed that decoupled payments increase land rents dollar for dollar. These alternative findings could indicate that land rental markets operate imperfectly and adjust slowly, and/or that PFC payments and associated land restrictions affect production in ways that reduce operator profits. At present, this finding remains a puzzle.

## Decoupled Payments Are Likely To Influence Investment Only During Severe Recessions

For any household—farm or nonfarm—an increase in income and wealth generally makes it easier to save and invest and may also increase the household’s access to credit. Households choose among investment

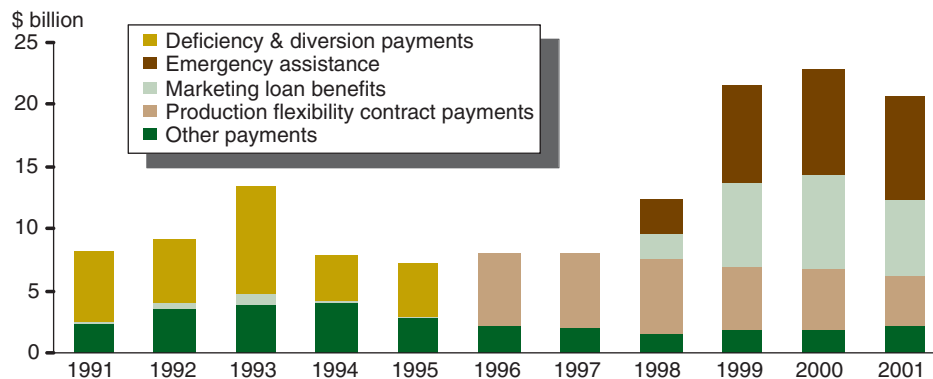
options based on a comparison of their expected rates of return. Farm households may choose to increase onfarm investment, through purchases of equipment or other physical capital, if the expected returns to doing so are higher than the returns expected from off-farm investment opportunities. Since lump-sum decoupled payments do not directly affect either onfarm or off-farm rates of return, they would not affect onfarm investment or production levels through capital market channels as long as these markets are efficient and households can access credit or capital. Instead, these payments provide farm households with increased purchasing power to allocate among a variety of uses, including financial investment and consumption.

Financial capital markets are, however, characterized by imperfections that can induce creditors to restrict producers' access to capital or credit. In such cases, farm households that have limited access to credit may use the payments to increase onfarm investment. Research indicates, however, that farm investment patterns do not rely on farm cash income except in relatively rare circumstances, both for the sector as a whole and for individual farms. In particular, during severe farm recessions, capital market imperfections are associated with inefficiently low investment. In addition, survey data do not indicate that capital constraints have been an important determinant of U.S. production of program commodities in recent (nonrecessionary) years. These observations imply that decoupled payments may raise onfarm investment to more efficient levels in farm recessions.

#### Onfarm Work Hours Are Not Changing Significantly

On average, U.S. farm operators and other members of their families who participate in government programs allocate about 60 percent of their total work hours to working on the farm, and earn about 20 percent of their household income from farming. An increase in income could lead farm households to increase consumption of

**In 1996, the U.S. introduced a significant change in farm subsidies called production flexibility contract payments, which did not depend on current production or prices, continuing a trend toward decoupling farm income support that began in the 1980s.**



Source: ERS, based on data from USDA's Commodity Credit Corporation and Natural Resources Conservation Service. See also: [www.ers.usda.gov/briefing/farmpolicy/19962001commodity.htm](http://www.ers.usda.gov/briefing/farmpolicy/19962001commodity.htm) and [www.ers.usda.gov/features/farmbill/2002glossary.htm](http://www.ers.usda.gov/features/farmbill/2002glossary.htm).

goods/services and leisure by spending less time working. ERS analysis of farm household labor allocations before and after the introduction of decoupled payments—taking into account the full range of factors affecting labor allocations—found no strong evidence that decoupled payments had a different effect on average hours worked, on or off the farm, than did traditional coupled payments. Both coupled and decoupled payments increased the hours worked on the farm and decreased the hours worked off the farm, when the model controls for the various factors that affect labor allocations. In the aggregate, farm households receiving decoupled payments did not significantly change their time spent working on the farm during the mid-to-late 1990s. Average off-farm work hours rose by a small but significant amount between 1996 and 2000—both for farm households that participated in commodity programs and those that did not—perhaps indicative of the influence of a strong economy during that time.

While the analyses of land, capital, and labor markets suggest that decoupled payments have the potential to indirectly influence farmers' decisions about resource allocation and agricultural production, the

empirical evidence to date indicates that these impacts are ambiguous and therefore warrant further study. As farm programs evolve, so, too, will the analytical framework used to study the impacts of policy changes, leading to enhanced understanding of the impacts of these payments on the behavior and well-being of U.S. farm households. **W**

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#### This finding is drawn from . . .

*Decoupled Payments in a Changing Policy Context*, by Mary Clare Ahearn, Mary E. Burfisher, Robert N. Collender, Xinshen Diao, David Harrington, Jeffrey Hopkins, Robert Hoppe, Penelope Korb, Shiva S. Makki, Mitchell Morehart, Michael J. Roberts, Terry Roe, Agapi Somwaru, Monte Vandever, Paul C. Westcott, C. Edwin Young, AER-838, USDA/ERS, November 2004, available at: [www.ers.usda.gov/publications/aer838/](http://www.ers.usda.gov/publications/aer838/)

*Decoupled Payments: Household Income Transfers in Contemporary U.S. Agriculture*, edited by Mary E. Burfisher and Jeffrey Hopkins, AER-822, USDA/ERS, February 2003, available at: [www.ers.usda.gov/publications/aer822/](http://www.ers.usda.gov/publications/aer822/)

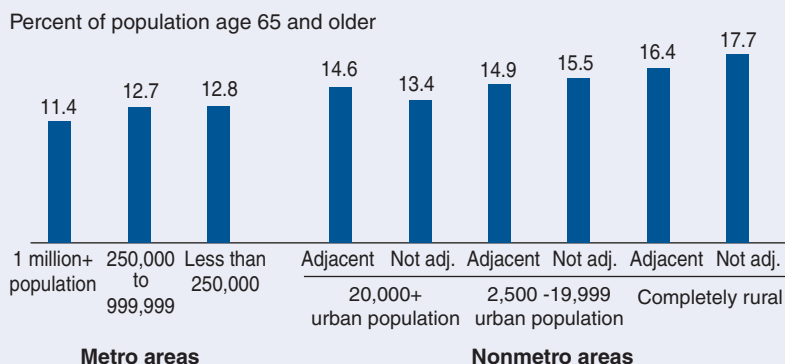


## Nonmetro Counties Vary by Urban Size and Metro Proximity

This nine-interval code allows a researcher to look at metro counties grouped by the population size of their metro area, and nonmetro counties by their amount of urbanization, if any. Nonmetro counties are also cross-classified by whether or not they are adjacent to a metro central county, on the premise that adjacent counties will typically show characteristics somewhat different from nonadjacent counties due to easier access to metro facilities and employment.

The Rural-Urban Continuum Code is used here to illustrate the percentage of people who were age 65 or older in 2000. The lowest incidence (11.4 percent) was found in metro areas of 1 million or more population. One key reason for this is that the largest metro areas are major gateways for immigrants who are disproportionately young adults or young families with children. Their addition to the population base thus reduces the share of older people.

**The more rural and remote the county, the larger the percentage of older people**



Source: Calculated by ERS from 2000 Census of Population data, U.S. Census Bureau.

In contrast, 17.7 percent of residents were age 65 years or older in nonmetro counties without an urban population and not adjacent to a metro area. Many of the counties in this group are farming areas that have long experienced high outmigration of young adults and declining or near stationary population with little infusion of immigrants. In such rural areas, social issues concerning older people are pertinent to a greater share of the population than is true in larger communities.

Between these two extremes, the percentage of people 65 and older generally rises with each step down

the residential scale, with the exception of the category consisting of nonmetro counties that have 20,000 or more urban residents and are not adjacent to a metro area. Although most social and economic variables have at least one exception to a regular progression of increased or decreased values along the continuum scale, they usually have a substantial degree of overall association with the code categories. And that has made the Rural-Urban Continuum code useful in a variety of research. W

Calvin L. Beale, [cbeale@ers.usda.gov](mailto:cbeale@ers.usda.gov)

This finding is drawn from . . .

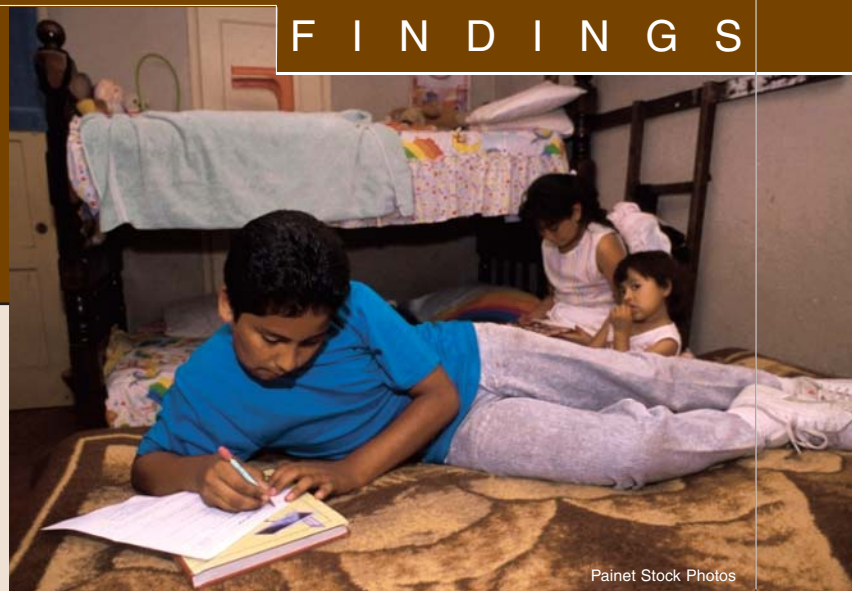
The County Typology page of the ERS Briefing Room on Measuring Rurality: [www.ers.usda.gov/briefing/rurality/typology/](http://www.ers.usda.gov/briefing/rurality/typology/)

# One in Four Nonmetro Households Are Housing Stressed

Of the Nation's 2,000-plus nonmetropolitan (nonmetro) counties, 302 are defined as housing stressed, according to ERS's recently updated county typology. In these counties, at least 30 percent of households failed to meet widely used standards for minimum basic amenities in 2000. This categorization of household-level housing stress requires that one or more of the following conditions be met: (1) housing expense/income threshold—expenses exceed 30 percent of income, (2) crowding—more household members than rooms, (3) incomplete plumbing—home lacked necessary bathroom facilities, and (4) incomplete kitchen—home lacked essential kitchen facilities. This housing stress typology, based on 2000 Census data, can help rural development planners identify counties with the greatest housing assistance needs.

The principal component of housing stress is high housing expenses relative to income, but the other stress conditions also have an impact. In nonmetro housing stress counties, 28 percent of households exceeded the expense/income threshold, while 7 percent of homes were crowded and 2 percent lacked either complete plumbing or kitchens. Such levels on all four conditions are well above those in other nonmetro counties, signifying more severe housing problems.

Compared with other nonmetro counties, housing stress counties are clustered mainly in the Southeast and the West, and have higher proportions of minorities and higher poverty and unemployment rates.



Painet Stock Photos

They contained 16 percent of all nonmetro households in 2000, but nearly twice that share of all nonmetro Black households (30 percent). An even higher concentration of nonmetro Native American (48 percent) and Hispanic (37 percent) households were found in housing stress counties. The family poverty rate in housing stress counties (15.1 percent) was well above that in other nonmetro counties (10.3 percent), as was the unemployment rate (8.4 percent in housing stress counties, compared with 5.7 percent in other nonmetro counties).

The greater incidence of households with relatively high housing expenses is largely driven by low income and applies to both renters and homeowners in housing stress counties. These counties also have a high share of renters, whose housing costs usually reflect current market conditions. In contrast, homeowners benefit from monthly mortgage payments that are generally unaffected by inflation. Supply constraints do not appear to influence housing expense differences, since vacancy rates for year-round homes in housing stress counties and other nonmetro counties are similar.

The housing stress typology identifies nonmetro counties with a high share of housing problems. But the housing stress definition includes some households whose high housing expenditures reflect a personal choice and not a financial burden, while it excludes others living in cheap low-quality housing. Program responses will be most effective when tailored to the specifics of household and community needs. *W*

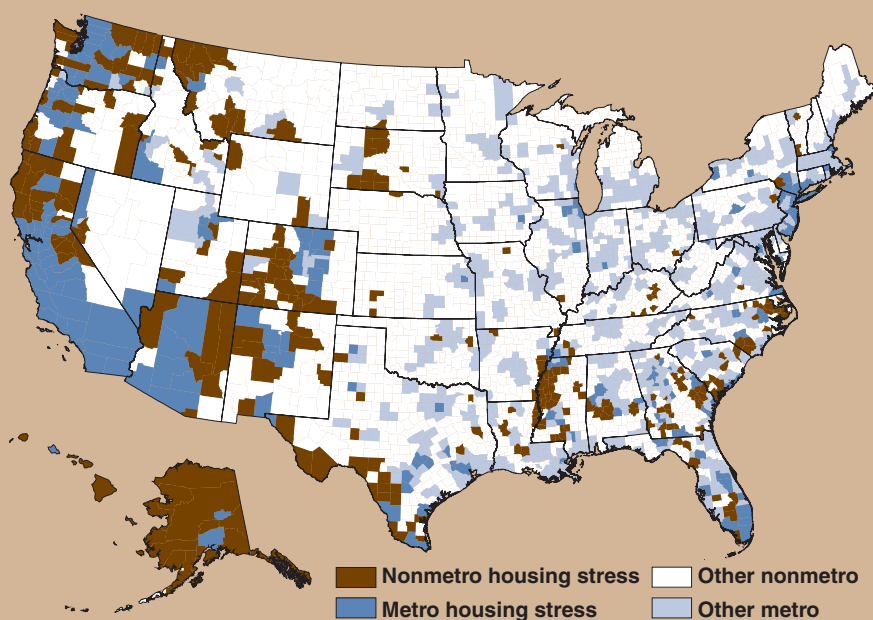
**James Mikesell, [mikesell@ers.usda.gov](mailto:mikesell@ers.usda.gov)**

## For more information, visit:

The County Typology page of the ERS Briefing Room on Measuring Rurality: [www.ers.usda.gov/briefing/rurality/typology/](http://www.ers.usda.gov/briefing/rurality/typology/)

The Rural Housing chapter of the ERS Briefing Room on Infrastructure and Rural Development Policy: [www.ers.usda.gov/briefing/infrastructure/ruralhousing/](http://www.ers.usda.gov/briefing/infrastructure/ruralhousing/)

**Housing stress counties are clustered in the Southeast and West**



Housing stress counties—30 percent or more of households had at least one of these housing conditions in 2000: paid 30 percent or more of income for owner costs or rent, had more than 1 person per room, or had an incomplete bathroom or kitchen.

Source: Calculated by ERS using data from the U.S. Census Bureau.

# Profiles of America: Demographic Data and Graphic Builder

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PhotoDisc

Rural America, covering over 2,000 counties and 75 percent of the Nation's land, is home to about 49 million people. The social and economic challenges facing rural areas differ greatly from those facing urban areas. *Profiles of America: Demographic Data and Graphic Builder*, a program now available on the ERS website, uses interactive tools to create maps, tables, and charts that display information on demographic trends, industrial structure, and the economic well-being of rural and urban communities. The program allows users to analyze rural and urban differences at the national, State, and county levels, and provides useful information to community leaders, Federal officials, and researchers.

The program currently contains data from the Census Bureau, the Bureau of Economic Analysis, and the Bureau of Labor Statistics related to the socioeconomic status of the population and settlement patterns within the U.S. from 1990 to 2003. Data within the program are divided into eight broad topics: Population & Migration, Age & Sex, Race & Ethnicity, Educational Attainment, Households & Families, Journey to Work, Employment & Unemployment, and Income & Poverty. The program contains ERS classification systems, such as the *rural-urban continuum code*, the *urban influence code*, and the *county typology* (see "ERS Rural Indicators"), as well as about 100 individual variables from various data sources.

Upon entering the program, users are just a few clicks away from retrieving information presented in the form of a map, table, or chart, as shown in these partial screen shots. For example, a user—perhaps a Federal or community official interested in funding a nutrition education program targeted to the elderly—can quickly create a table showing that Florida has the highest share of the population 65 and over in 2000, 17.6 percent compared with the U.S. average of 12.4 percent.

**Profiles of America**

- Product Overview
- Start Using
- Data Download
- Learn More:
  - How to Use
  - Questions and Answers
  - Documentation
  - Get Email Updates
  - Contact the Profiles of America Team

**Make your Selections**

step 1 region of interest  
 United States  
 Selecting United States in this step will produce a county-level map in about 25 seconds.

step 2 output format  
 Tables Maps Charts  
 With mapping you can create a map with a demographic variable or a rural indicator, print, identify counties, and zoom. Filtering allows you to create a map with a demographic variable for a single rural indicator value.

step 3 demographic variable OR a Rural Indicator  
 Age and Sex  
 Percent Population 65 Years and Older 2000  
 First, select your topic of interest. Then select a demographic variable to view.  
 No indicators  
 OR, select a Rural Indicator to map. Note: this will override a variable on the map. To reselect the variable, click on "No Indicators".

step 4 optional filter  
☐ Filter Demographic Variable by a Rural Indicator value

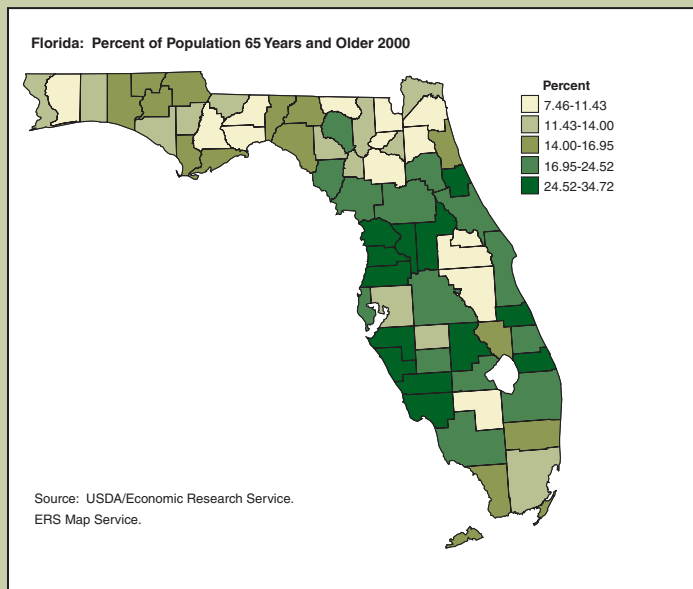
Download This Data

**Percent Population 65 Years and Older 2000**

Fipscode	Geography	Amount
00000	U.S.	12.43%
01000	Alabama	13.04%
02000	Alaska	5.69%
04000	Arizona	13.02%
05000	Arkansas	13.99%
06000	California	10.62%
08000	Colorado	9.67%
09000	Connecticut	13.81%
10000	Delaware	12.98%
11000	District of Columbia	12.22%
12000	Florida	17.57%
13000	Georgia	9.59%

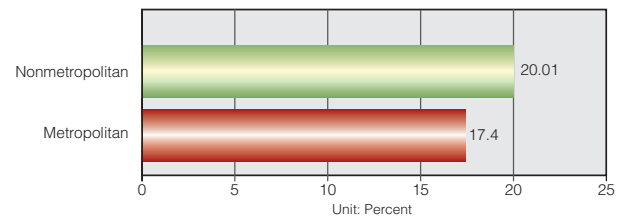
Fipscode	Geography	Amount
12000	Florida	17.57%
12001	Florida -- Alachua	9.60%
12003	Florida -- Baker	9.21%
12005	Florida -- Bay	13.37%
12007	Florida -- Bradford	12.94%
12009	Florida -- Brevard	19.88%
12011	Florida -- Broward	16.09%
12013	Florida -- Calhoun	13.95%
12015	Florida -- Charlotte	34.72%
12125	Florida -- Union	7.46%

The user can then obtain greater detail and create a table showing the percentage of elderly for each county in Florida and determine that Charlotte has the highest percentage of elderly (34.7 percent) and Union the lowest (7.5 percent). The analysis can be further refined with the mapping function, which shows that the older population is heavily concentrated along the south-west coast and north-central areas of the State.



Because the economic and social character of rural places varies greatly across the United States, it may be even more instructive to use ERS's rural indicators to capture this diversity for input to public policy and programs. *Profiles of America* can customize your data output accordingly. For example, some public programs specifically target funds to metro or nonmetro areas. The user can select one of ERS's rural indicators and then chart any demographic variable by that indicator. Continuing with our

Florida: Percent Population 65 Years and Older 2000  
Metro-nonmetro Status, 2003



Source: USDA's Economic Research Service.

example, nonmetro areas have a higher share (20.0 percent) of the population 65 and older than metro areas (17.4 percent).

Other functions are also available to help better understand socioeconomic trends and select the best way to display data. Printing, sorting, and the ability to download data to a personal computer for further analysis are available options. New indicators and features will be added in the future.

#### For more information . . .

*Profiles of America: Demographic Data and Graphic Builder*, available at: [www.ers.usda.gov/data/profilesofamerica/](http://www.ers.usda.gov/data/profilesofamerica/)

## ERS Rural Indicators

**Metro-Nonmetro Status**—Metro and nonmetro areas are defined by the Office of Management and Budget (OMB). In 2003, OMB defined metro areas as (1) central counties with urbanized areas of 50,000 or more residents, and (2) outlying counties with 25 percent or more of the employed population commuting daily. Nonmetro areas are all counties not classified as metro.

**Metro-Micro-Noncore**—Similar to metro-nonmetro definition, except nonmetro counties are further divided into micropolitan (micro) and noncore counties. Micro areas are counties with one or more urban clusters of 10,000-50,000 persons, including outlying counties with 25 percent or more commuting.

**Rural-Urban Continuum Codes**—A classification scheme that distinguishes metropolitan (metro) counties by the population size of their metro area, and nonmetropolitan (nonmetro) counties by degree of urbanization and adjacency to a metro area or areas.

**Urban Influence Codes**—Similar to the Rural-Urban Continuum Codes, except that the population of the largest city within the county is taken into consideration.

**County Typology Codes**—A classification system based on the primary economic activity of counties.



Photos: USDA/NRCS

# Devolution

## of Farm Programs Could Broaden States' Role in Ag Policy

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U.S. farms vary greatly in size, specialty, and household characteristics. U.S. regions differ markedly in natural resource endowments. And States themselves are widely divergent in terms of their preferences as to how funds from agricultural programs should be spent. Given this diversity, can the delivery of agricultural programs be better tailored to distinct State and local circumstances? Devolution, or the transfer to States of Federal funds and/or control of those funds, is one way of adapting national policies to suit local preferences more closely and of recognizing that program delivery costs can vary geographically.

Devolution is not a new idea. Education is a classic example. Decisionmakers at the local level—in county governments and school boards—control the distribution and use of Federal funds, under broad mandates from the U.S. Department of Education. A recent example is the 1996 bipartisan “welfare reform” legislation, which transferred financial resources and authority for Federal income assistance to the States. Within the context of agricultural policy, and especially with respect to conservation programs, USDA has already provided States with latitude in designing and delivering programs to meet their particular requirements, as has been the case with EQIP, the Environmental Quality Incentives Program.

In an international setting, European Union (EU) reforms of its Common Agricultural Policy (CAP) move in the direction of devolving farm and especially rural development policy to member states. According to a July 2004 policy directive from the European Commission, member states will be given more freedom in implementing their programs through simplified rules, eligibility conditions, and financial management arrangements. This

European example may be particularly instructive because of growing similarities between the EU and the U.S. in shared goals for sustainable, competitive agriculture and a healthy rural economy (see box, “U.S. and EU Agricultural Policies Now Bear Similarities”).

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*Devolution is worth considering whenever it has the potential to make program delivery more cost effective and to better satisfy citizens.*

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As much as a third of current USDA spending could provide the financial basis for further devolution from Federal to State control. Representing about \$22 billion annually, this candidate funding is now associated mainly with commodity and natural resource programs. Although these funds could be transferred to States based on the existing, commodity-based

distribution, alternative distribution mechanisms could be designed to better address local environmental or rural development preferences. Federal policymakers would continue to provide direction on broad policy aims.

Devolution is worth considering whenever it has the potential to make program delivery more cost effective and to better satisfy citizens. When preferences and implementation costs vary across the country, devolution may enable States to better respond to local circumstances. Improvements may be possible because a central agency administering a program at the national level may lack the information needed to accommodate State-level differences. Political pressures may dictate that a central government provide a more uniform level of services, even when local communities would prefer lower or higher levels of services. Another source of gain from devolution can arise from large differences in costs across local areas. For example, costs of cleaning up a groundwater aquifer may differ among jurisdictions, depending on geology and the source of the contamination. So, even if preferences for clean water were identical, economic



## U.S. and EU Agricultural Policies Now Bear Similarities

The 2003-2004 comprehensive reform of the EU Common Agricultural Policy (CAP) alters the way support is provided to producers of arable crops (grains, oilseeds, and protein crops), rice, nuts, potatoes for starch, dried fodder, beef, sheep, milk, tobacco, cotton, olive oil, and hops. All other commodity regimes—such as fruit and vegetables, potatoes, and sugar—remain unchanged, although reform of the sugar program has been proposed.

Main features of the reform agreement include:

- Beginning in 2005, a direct income, or single-farm, payment based on historical payments for arable crops, rice, beef, and sheep will replace existing payments (mainly compensatory and livestock

headage payments) that are tied to current production of commodities. Under an earlier reform, dairy producers will receive a direct payment in partial compensation for dairy support price cuts beginning in 2004. The dairy payment will be included in the single-farm payment in 2007. Support for producers of cotton, tobacco, olive oil, and hops will be partially converted to the single-farm payment.

- To minimize risk of land abandonment, member states may opt to retain support coupled to production of arable crops and beef for some proportion of direct payments. The maximum proportion of payments that may remain coupled to production varies by commodity.

considerations may lead different jurisdictions to choose different methods to clean up the site.

### **U.S. Farms Diverse in Resources and Economic Activity . . .**

ERS has documented U.S. agriculture's diversity with respect to farm business and household structure and across a number of dimensions that characterize the natural resource base and rural economies. The ERS farm typology documents variation across farms with respect to financial size and household goals. The nine farm resource regions devised by ERS are based on geographic specialization in the production of farm commodities, which derives from variation in underlying climate, soil, water, topography, and other factors. For example, the Northern Great Plains, which specializes in wheat and cattle, has the largest farms in terms of acreage and the smallest farm population. The Eastern Uplands, with cattle, tobacco, and poultry farms, has more small farms than any region.

At the county level, ERS classifies all U.S. counties according to discrete categories of economic dependence on agriculture and seven overlapping policy-relevant

themes (housing stress, low education, low employment, persistent poverty, population loss, nonmetro recreation, and retirement destination). These classifications provide a picture of diversity across regions, States, and counties. Low-education counties, for example, predominate in the rural South, while recreation counties predominate in the rural West.

### **...And in Preferences and Goals**

While the ERS classifications focus on environmental, demographic, and economic factors, intangible differences across States are in play too. Preferences and goals are articulated in States' own explanations of the aims of their departments of agriculture. Differences in State funding levels for the same program or in tax policies could also indicate a State's agricultural and rural agenda. A sampling of Midwestern States' goals for their agriculture departments reflects these differing aims.

The goals of the Iowa Department of Agriculture are focused on farming and farmers and include increasing Iowa's domestic and foreign market share, developing and encouraging agricultural education, and preserving Iowa's soil.

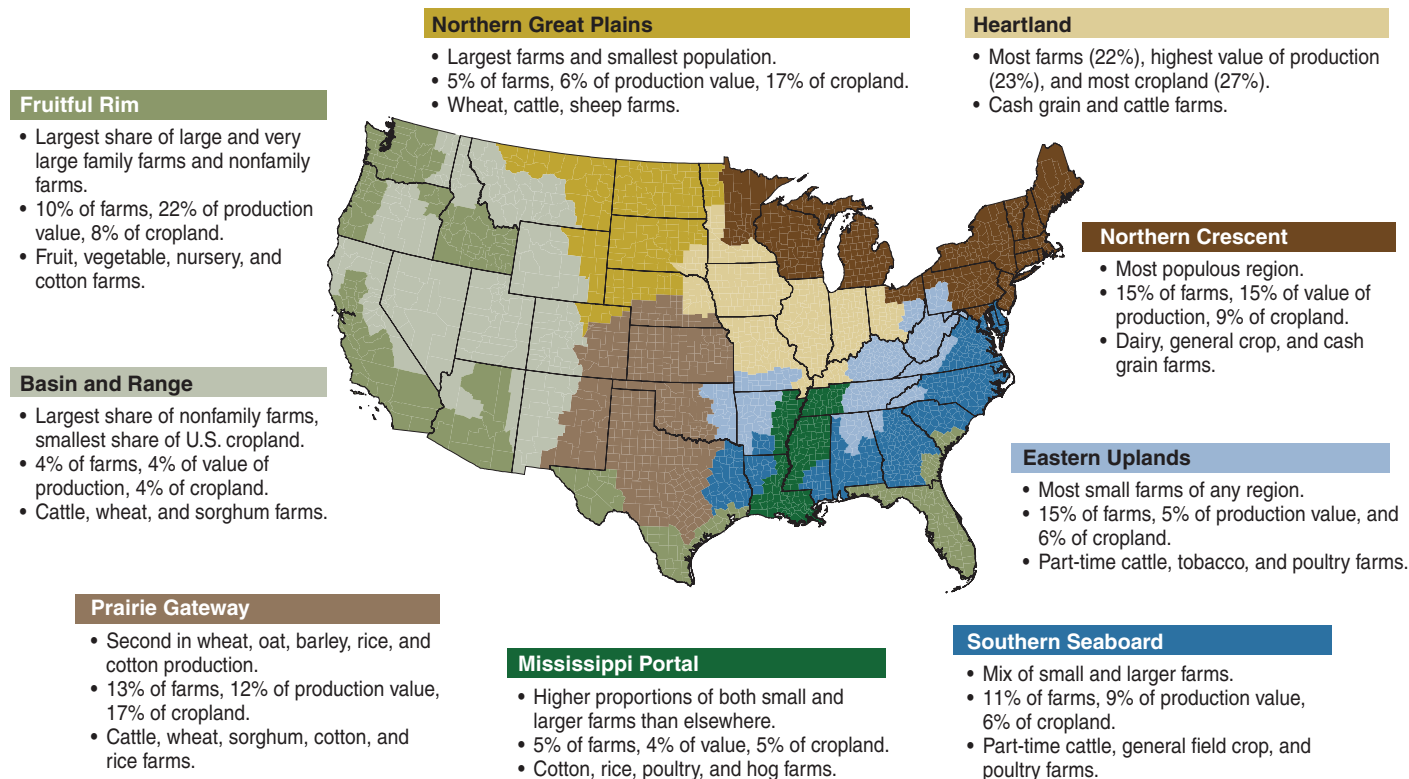
The Missouri Department of Agriculture has a broader mandate. According to its strategic plan, the department values a prosperous agricultural economy, preservation and enhancement of its environment and agricultural resources, but also consumer confidence in a quality product at a fair price and opportunities for personal growth, professional development, and organizational advancement for farmers. The Kansas Department of Agriculture, by contrast, emphasizes its regulatory role in ensuring food safety and environmental quality.

Based on their differing perspectives, States may look for different emphases in policy or in the mix of programs they would provide if given additional flexibility by devolution. For example, some States may place more importance on environmental issues and, therefore, may want to set aside more agricultural land than possible under the existing Federal Conservation Reserve Program. Some States may have many farms experiencing financial difficulties with little opportunity for recovery. These States may choose to invest in job training and education for farmers to help them move from farming to other

- The reform expands a program ("modulation") established in 2000 that allowed member states to reduce payments for larger farms and use the savings to fund rural development programs. All member states will be required to implement such programs.
- Support will be available to help farmers adapt to environmental, animal and plant, health, animal welfare, and occupational safety standards. Support will also be provided to defray the cost associated with improving the welfare of farm animals.
- Producer payments will be contingent on compliance with environmental, food safety, and animal health and welfare standards.
- Farmers are not required to produce any crop, and will have increased flexibility regarding what they can produce, with the exception of explicitly excluded products (perennial crops, fruits and vegetables, or crops for which they receive payments under certain sectors that have not yet been reformed or for which there are restrictions on new plantings).

The new features adopted in this agreement bear many similarities to U.S. commodity programs, particularly in two areas: emphasis on income support decoupled from current production and focus on the interactions between agriculture and the environment. Both U.S. policy and the new EU policy feature—for a group of commodities—direct payments based on historical payment levels and not linked to current production. The EU also joins the United States in providing farmers with greater production flexibility. Both systems increase the policy focus on protecting the environment through programs on working lands. In addition, cross-compliance, which requires producers to comply with environmental regulations and standards to receive direct payments and has been required in the United States for some time, would now be mandatory in the EU. Finally, both the U.S. and EU continue to maintain commodity-specific income support—the EU through its partial retention of coupled payments and the United States through the marketing loan program.

## ERS farm resource regions reflect geographic specialization in agricultural production



professions. Conversely, other States may view farm distress as temporary and design subsidies to help farmers weather short-term financial problems. Existing county administrative offices could support delivery of this kind of program.

### Still a Role for National Policies and Programs

Despite evidence of heterogeneity in preferences across States, some policies are better maintained at the national level. Macroeconomic policies, such as monetary policy and defense spending, are typically more effective as Federal mandates. International trade agreements that affect broad portions of the economy are best negotiated and enforced at the Federal level. In agriculture, such national consistency would be necessary to ensure compliance with trade agreements that prohibit use of certain kinds of market-distorting policy instruments. Establishing regula-

tions to safeguard human health and to protect environmental quality are usually national responsibilities, in order to ensure consistent levels of protection regardless of political boundaries. In addition, programs that provide fiscal stability or that redistribute income usually require the deeper pockets of the Federal Treasury.

But would devolution undermine national farm policy goals such as income stability for farmers and the economy or food security? Probably not. Programs that allocated payments based on production of supported commodities might once have had broad stabilizing effects. This is not the case today given the relatively small number of U.S. farmers and the relatively small share of farming in the national economy. Stabilization of farmers' incomes can be addressed through Federal programs but also by private means, such as forward pricing, crop yield or revenue insurance, futures, and

options. And, in contrast to the 1930s when the programs were initiated, commodity programs have little redistributive effect, as the bulk of payments go to farm households with incomes above the U.S. nonfarm average. Food security for the U.S. no longer depends exclusively on domestic production, which means that national commodity policies are not the only determinant of whether Americans have enough to eat.

With these considerations, which USDA programs might be candidates for devolution to the State level? USDA's budget outlays were about \$75 billion in fiscal year 2003. Of this total, \$45 billion was allotted to food and nutrition assistance programs and the Forest Service, programs that will not be considered here because their size (in terms of dollars and/or personnel) makes them deserving of separate treatment and because they are less directly related to farm, rural

development, and agri-environmental goals. In addition, USDA funding for food safety, animal and plant health protection, and interstate and international market regulation will not be considered candidates, nor will research spending on Federal intramural activities aimed at national problem solving or information gathering. These programs represented nearly \$6 billion of USDA outlays in fiscal 2003. Another \$2 billion in spending through direct research and technical assistance grants is already deemed to be devolved. The remaining \$22 billion of USDA's 2003 outlays for domestic commodity and natural resource programs are candidates for devolution to the States.

Potentially, then, "devolvable" Federal programs represent about a third of annual USDA spending. What might devolution look like? One option would transfer program authority, but not financial resources, to States. Another might transfer authority and require States to match Federal funds. A third would give States the authority to design and administer their own programs and divide up the Federal funds, allowing States to augment Federal contributions with State spending. This last option, block

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*Devolution would not mean the Federal Government had lost interest in the broad aims of farm, rural development, and natural resource policy.*

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grants without a matching requirement, would likely be most palatable to States.

### Three Possibilities for Allocating Federal Funds

As the devil is always in the details, the next question concerns how Federal funds are distributed across States. Allocations could be made based on the current distribution, as the EU CAP reform has done. While this might represent the political path of least resistance, it is worthwhile to consider alternatives. Devolution would *not* mean the Federal Government had lost interest in the broad aims of farm, rural development, and natural resource policy.

Federal decisionmakers might decide to distribute resources in a way that emphasizes environmental or economic development goals rather than commodity production. In that case, a second option might be a more equal distribution among States based on a formula derived from the Hatch Act, which divides Federal funding for agricultural research among the agricultural experiment stations in the States and U.S. territories. The formula is intended to recognize variation across States in the importance of farming and rural communities. A quarter of the research funds is divided equally among the States, about half is allocated based on the shares of a State's population in rural areas and living on farms, and another quarter goes to States according to their participation in multi-State, multidisciplinary projects.

A third method for distributing Federal commodity and natural resource funds might be via means testing or an allocation based on the needs of farmers as defined by their income levels, similar to other income assistance programs. Distribution of such "safety net" funding could be determined by figuring the

Natural resource endowments vary widely across States, as do preferences in farm and environmental policies.



Fly fisherman on Holston River in Tennessee.

Jeff Vanuga, USDA/NRCS

Hawaiian farmer harvesting taro, which is used to make poi, a Hawaiian staple.

USDA/NRCS

amount required to raise each farm household's income above the poverty line. Thus, the distribution of funds would depend on the number of farm households in a State that met this income assistance criterion. Any distribution rule ought to consider the relevance of the current definition of a farm (one with sales over \$1,000 annually) to policy goals.

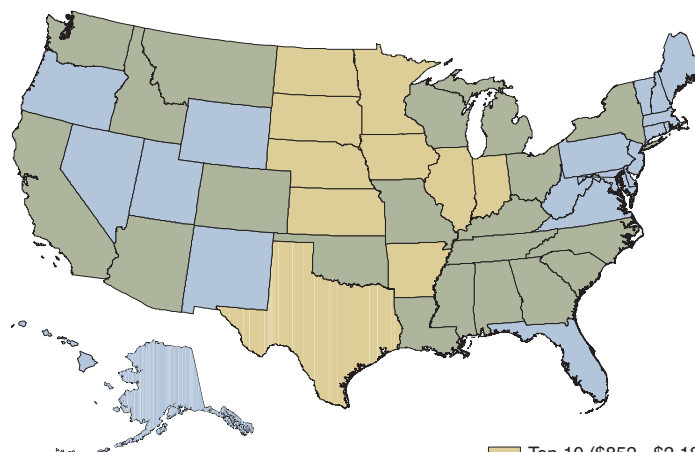
### Where Would Funds Flow?

How would funding by State vary with each distribution rule? For each rule, ERS researchers identified the 10 States that would receive the most funding, the middle 20, and the 20 States receiving the least funding. Texas and Iowa are among the five largest recipients under all three distribution rules. Under the current distribution rule, the 10 largest recipients, mainly Great Plains and Heartland States, receive about two-thirds of the \$22 billion identified as potentially devolvable spending. Using the Hatch Act rule, States with relatively large farm and rural populations, such as North Carolina, Pennsylvania, Ohio, and Illinois, would garner the most payments, with about one-third of the \$22 billion going to the top 10 States. Using a farm safety net rule would send half the money to the top 10 States, which include States such as Kentucky, Missouri, California, and Tennessee with relatively large numbers of farms and, as it happens, relatively larger numbers of poorer farm households.

Comparing the distributions under the three rules illustrates some important points about any potential devolution. First, devolution by any block grant scheme makes the distribution of Federal support much more transparent than when it is determined by individual commodity, rural development, or national resource program requirements. Such transparency did not likely provide much new information in the EU, where the distribution of CAP funds had been scrutinized over many years. In the U.S., the dis-

## Different distribution rules could be used to allocate Federal funds to States

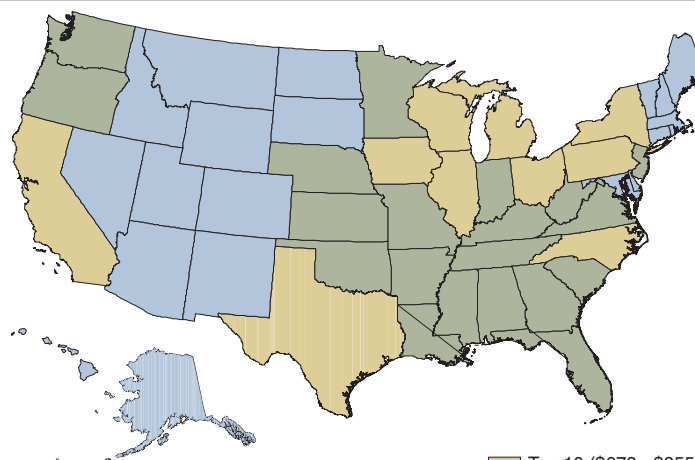
### Current rule



Source: ERS calculation from actual distribution of calendar year 1999 payments by USDA's Farm Service Agency.

Top 10 (\$852 - \$2,188 mil.)  
Middle 20 (\$122 - \$786 mil.)  
Bottom 20 (\$1 - \$121 mil.)

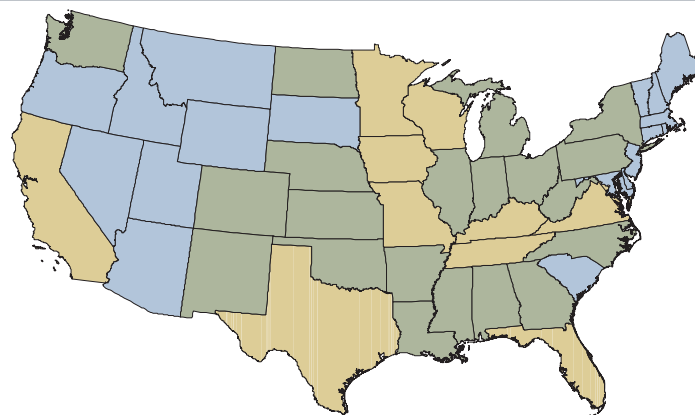
### Hatch Act rule



Source: ERS calculation from 1999 State allocation of Hatch funds.

Top 10 (\$678 - \$855 mil.)  
Middle 20 (\$350 - \$669 mil.)  
Bottom 20 (\$131 - \$344 mil.)

### Safety net rule



Source: ERS calculation from 1999 Agricultural Resource Management Survey (ARMS) data.

Note: ARMS covers the 48 contiguous States.

Top 10 (\$772 - \$2,337 mil.)  
Middle 20 (\$301 - \$766 mil.)  
Bottom 20 (\$2 - \$300 mil.)

tribution of USDA funds to States is not transparent to the average American. Second, both the Hatch Act and the safety net options move the funding distribution away from large commodity producers and toward smaller farmers and greater numbers of rural people. Any time that the benefits of public policy are directed away from one group and toward others, debate can be expected.

Ultimately, the extent to which devolution of Federal programs would produce more highly valued outcomes at lower costs is an empirical question. Some States may make unwise choices or suffer from administrative inefficiencies. Nonetheless, States—like the Federal Government—would be held accountable for achieving the intended outcomes of their programs. But the tremendous diversity across States with respect to policy preferences and farm, rural, and natural resource circumstances suggests that more tailored farm programs could be more efficient. How Federal payments are allocated to States would be important as an expression of national goals, and would, of course, determine the scale of a State's program.

Devolution would not introduce a new concept into USDA programs, but it could further the degree to which States have discretion over the use of Federal funds. Several USDA program agencies have already devolved programs to the extent permissible under existing legislation and have developed different approaches to devolution that address local preferences. For example, the notion of empowering local decisionmaking is embodied in the Farm Service Agency County Executive Committees, which date back to the 1930s. These locally elected committees are responsible for making national farm programs fit the needs and situations faced by local farmers. A more recent example from the 2002 farm bill is the Farm and Ranch Land Protection Program, which provides matching funds to help local governments and entities purchase development rights to keep productive farm and ranch land in agricultural uses. Further devolution might well focus on the \$22 billion in USDA programs that have not been similarly tailored to local requirements.

As ERS analysis shows, farm characteristics, natural resource endowments,

and rural economies vary widely across States, as do preferences for farm, food, environmental, and rural development policies. These circumstances indicate that further devolution may result in gains in efficiency and citizen well-being, but the potential for improvement must be studied more closely. A changing policy agenda and the prospect of trade liberalization and policy reform suggest such an analysis might be more than a strictly academic exercise. *W*

#### **This article is drawn from . . .**

*A Consideration of the Devolution of Federal Agricultural Policy*, by Craig Gundersen, Betsey Kuhn, Susan Offutt, and Mitchell Morehart, AER-836, USDA/ERS, November 2004, available at: [www.ers.usda.gov/publications/aer836/](http://www.ers.usda.gov/publications/aer836/)

*U.S.-EU Food and Agriculture Comparisons*, by Mary Anne Normile and Susan Leetmaa, Coordinators, WRS04-04, USDA/ERS, January 2004, available at: [www.ers.usda.gov/publications/wrs0404/](http://www.ers.usda.gov/publications/wrs0404/)

ERS Briefing Room on Farm Policy, Farm Households, and the Rural Economy, available at: [www.ers.usda.gov/briefing/adjustments/](http://www.ers.usda.gov/briefing/adjustments/)

Different regions specialize in different types of agricultural production, depending on the climate, soil, water, topography, and other factors.



Irrigation systems in New Mexico reduce evaporation of water.

Cattle graze on well-managed rangeland in Arizona.



# Farmland Retirement's Impact on Rural Growth

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Conventional wisdom holds that efforts to protect natural resources and the environment affect resource-related jobs, and consequently the economies of nearby communities. Recent ERS analysis of the impact of the Nation's largest farmland retirement program—the Conservation Reserve Program—on rural economic growth suggests otherwise.

The Conservation Reserve Program (CRP) aims to reduce soil erosion, improve air and water quality, enhance wildlife habitat, preserve the productive capacity of the Nation's farmland, and support farm income by taking land out of production for 10-15 years and putting it into conservation uses. Landowners and farm operators have voluntarily enrolled approximately 35 million acres of highly erodible and environmentally sensitive farmland in the program. In return for planting qualifying land to grasses, trees, and other protective vegetative cover, enrollees receive an annual rental payment, are reimbursed for roughly half the cost of establishing approved ground cover, and may be eligible for other incentive and maintenance payments. The program provides a stable source of income to participants and produces a wide range of environmental benefits. But by retiring farmland, it also reduces local demand for farm inputs, marketing services, and

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The conservation benefits attributable to the CRP do not appear to come at the expense of a permanent slowdown of local job growth or to systematically threaten the survival of rural counties.

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PhotoDisc

Partial-farm CRP enrollments can provide a stable source of income to farm operators in addition to the environmental benefits they provide.

labor. To limit the local economic impact of taking land out of production, no more than 25 percent of a county's cropland can normally be enrolled in the CRP without formal approval to exceed this cap. Nonetheless, the program is often blamed for the loss of farm-related jobs and the depopulation of nearby communities that provide agricultural and retail services.

ERS analyses of CRP enrollment patterns and employment/population trends indicate that high levels of CRP enrollment tend to reduce local job growth by a small but statistically significant amount in the years immediately following cropland retirement. Farm and farm-related employment is likely to decline as farmland is taken out of production. Over time, however, local economies adjust to changing business opportunities, and employment trends return to levels typical of similar areas with little or no CRP enrollment. In addition, nonfarm output and employment may increase due to CRP's impact on farm household income and the CRP-enhanced recreational opportunities created. Contrary to popular belief, no statistically significant evidence was found that CRP results in a systematic loss of population,

even among counties with high enrollments. Thus, the conservation benefits attributable to the CRP do not appear to come at the expense of a permanent slowdown of local job growth or to systematically threaten the survival of rural counties.

### Farm and Nonfarm Responses to CRP Largely Offset in Short Term

Past studies have predicted the employment impact of enrolling cropland in the CRP. They generally conclude that CRP enrollment reduces farm and nonfarm employment, particularly in areas where enrollment is high. ERS recently estimated the economywide impact of allowing all CRP contracts to expire, freeing enrolled acreage to return to production. Consistent with previous research, allowing CRP land to return to production would increase farm employment, but the impact on nonfarm jobs varies considerably by region and depends on underlying assumptions.

Based on market conditions in 2000, only about half of the land enrolled in CRP would be expected to return to crop production in the short term if CRP contracts expired. The remainder would likely go

into pasture or be left undisturbed. Holding prices constant, roughly \$3 billion in additional farm commodities could be produced on CRP land coming back into production. (However, the resulting increase in crop production could lower affected farm commodity prices slightly, resulting in a net decline in farm income nationwide.) Of course, the environmental benefits attributed to CRP would likely decline as land reenters production. For example, as wildlife habitat degrades and water quality deteriorates, outdoor recreational expenditures in rural America could decline by as much as \$300 million annually.

As these CRP-induced changes in production and spending work their way through the economy, nonfarm jobs would be created or lost. Land brought back into production would increase local

Nationally, the economic effects of allowing CRP land to return to production are expected to be very small (less than one-tenth of 1 percent), with positive and negative effects within particular industries and regions largely canceling each other out.

demand for farm-related goods and services (farm inputs, labor, marketing and transportation services, etc.), leading to job growth in these industries. But reduced outdoor recreational spending

could lead to job losses in other industries. And as income is redistributed from farm households to other sectors of the economy, shifting demand for consumer goods and services could lead to other job changes as well. Each of these changes affects production, income, and consumption.

Nationally, the economic effects of allowing CRP land to return to production are expected to be very small (less than one-tenth of 1 percent), with positive and negative effects within particular industries and regions largely canceling each other out. But the effects could be noticeable in areas of the country where CRP enrollment is high. By focusing on possible output, employment, and income effects in three regions having significant CRP enrollments, the regional implica-

Farmland retirement has a direct impact on demand for farm inputs and marketing services.



tions of allowing all CRP contracts to expire become clearer.

ERS researchers assessed the implications of allowing CRP contracts to expire using two sets of assumptions. In the traditional approach, CRP enrollment is assumed to have no influence on outdoor recreational expenditures or farm commodity prices. A newer approach developed by ERS allows CRP enrollments to influence recreational spending and commodity prices, both of which tend to

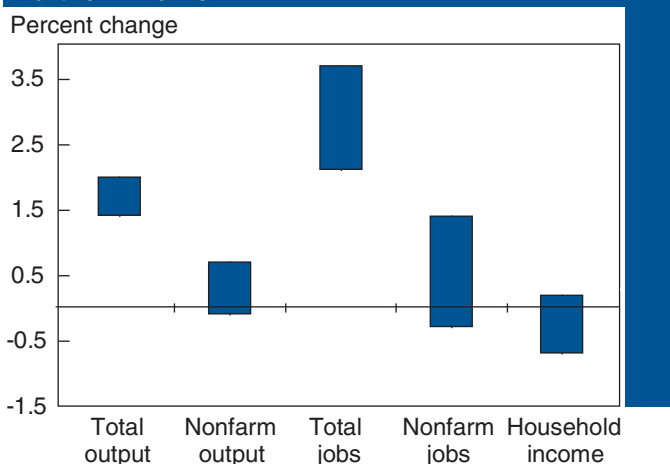
counter CRP's impact on farm output and employment with opposite changes in nonfarm output and employment. As a result, the upper bound of the predicted impacts from allowing CRP land back into production (based on traditional assumptions) is often positive while the lower bound (reflecting recreational and price effects) is often negative.

The Northern Plains and the Southern Plains regions, as defined here, each have slightly more than 8 million

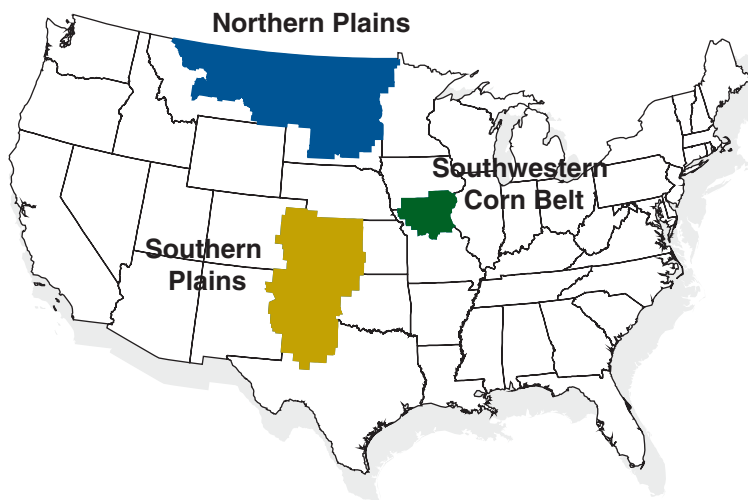
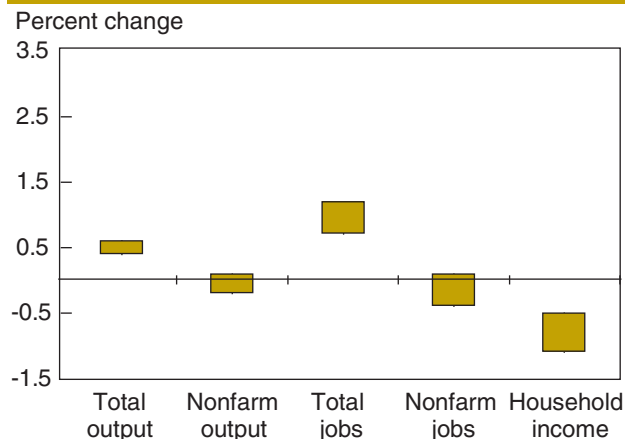
acres of cropland enrolled in CRP, while enrollment in the southwestern Corn Belt is less than 2 million acres. Despite similar CRP acreage, the expected outcomes of eliminating CRP contracts in the Northern and Southern Plains are very different. The Northern Plains is more geographically isolated, has a lower population density, and is more dependent on agriculture than the other two regions. As a result, the output, employment, and household income responses to allowing CRP land to

## Economic impacts of CRP's modeled expiration vary by region and economic sector

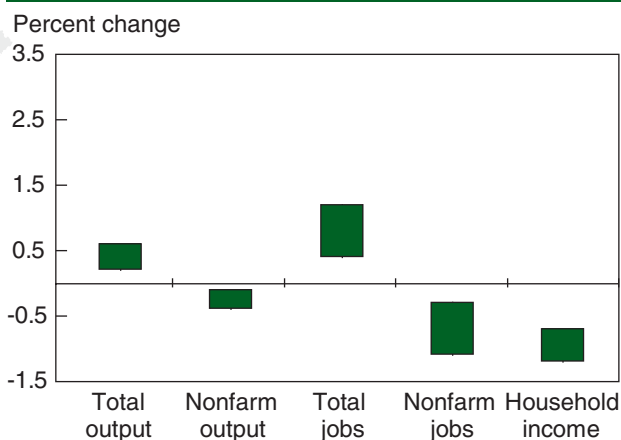
### Northern Plains



### Southern Plains



### Southwestern Corn Belt



The bars represent the range of estimated percentage changes in aggregate measures of economic activity that could have followed CRP's expiration in 2000. The upper bound of each estimate reflects constant commodity prices and recreational expenditures while the lower bound accounts for changes in these prices and expenditures.

return to production in the Northern Plains are estimated to be roughly three times greater (in terms of percentage change under both sets of assumptions) than in the Southern Plains. Part of these differences is due to the larger dollar size of the economy in the Southern Plains. However, when impacts are measured in absolute rather than percentage changes, the responses in the Northern Plains are still twice the size of the those in the Southern Plains. This suggests that CRP's impact on local economies is sensitive to local conditions.

In addition, there are likely to be winners and losers within local economies. While aggregate output and jobs are estimated to increase at least slightly in all three regions if CRP contracts expired under both sets of assumptions, this outcome is largely due to gains in the farm sector. However, if commodity prices and recreational expenditures are allowed to adjust, nonfarm output and employment are estimated to decline if CRP contracts expired, as would aggregate household income.

### CRP's Job Impacts Fade With Time

Previous results imply that farm and farm-related employment and output are lower than they would be in CRP's absence. But CRP's impact on the nonfarm economies of the three multistate regions analyzed appears small (never over 1.5 percent) and may be positive or negative, depending upon assumptions about recreational spending and commodity prices.

Another approach to estimating CRP's local economic impacts is to examine what actually happened before and after CRP was implemented in 1986. Doing so illustrates how local businesses and entrepreneurs reacted to changing economic opportunities as land entered the CRP.

To assess the local impact of high CRP enrollment, roughly 200 rural counties with over 20 percent of cropland enrolled in the CRP or where the ratio of CRP rental payments to total county household income exceeded 2.75 percent were identified. These "high-CRP" counties were then matched with counties that had little CRP enrollment but had similar pre-CRP

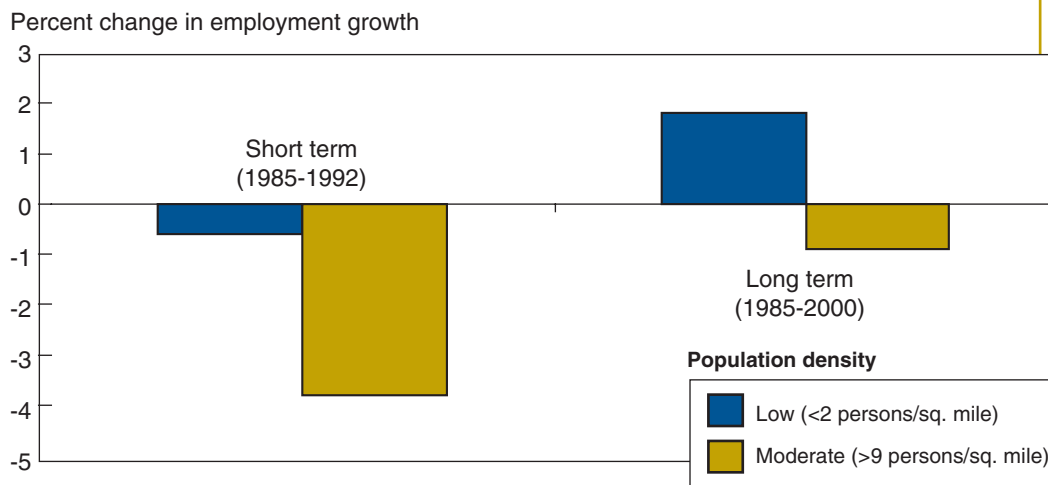
socioeconomic conditions. By charting the economic course of high- and matching low-CRP counties following CRP's implementation, any systematic effect of high CRP enrollment should become clear.

The results generally confirm previous analyses. In the years immediately after land was enrolled in the CRP, job growth in high-CRP counties was significantly lower than in comparable low-CRP counties. However, job growth is indistinguishable over the longer term (1985-2000). Either entrepreneurs were able to adapt to the changing opportunities that CRP offered (such as improved recreational opportunities) with time or CRP merely sped up economic adjustments that other rural communities experienced more gradually. In either case, CRP's impact on local trends in job growth was not permanent.

One might expect land retirement programs to affect communities that serve as regional agricultural business service centers more than other communities. Population density was used as a proxy for whether a county is likely to include one or more agricultural service centers. For low-density counties (fewer than two persons per square mile), CRP made little difference in job growth over the short term and may have had a positive impact over the longer term (perhaps by keeping farmer participants in place who might otherwise have moved elsewhere as the farm sector continued its consolidation). For counties with slightly higher population densities (over nine persons per square mile), the pattern was very different. In the short term, high-CRP enrollment led to a nearly 4-percent decline in job growth. But over time, this discrepancy dissipated.

Together, the forward-looking economic impact simulations of CRP contract expirations and the

#### CRP's impact on job losses is temporary and varies with population density, based on matched-pair analysis



Note: Bars represent predicted changes in employment due to an increase in the ratio of CRP payments to income. Predictions are determined by computing estimates with no difference in CRP payments between high- and low-CRP counties, recomputing estimates with high-CRP counties having a ratio of CRP rental payments to household income set to 4 percent, and subtracting the second from the first estimates.



Arthur W. Allen, USGS

By improving wildlife habitat, CRP can increase outdoor recreational opportunities such as hunting, fishing, and wildlife viewing.

backward-looking comparison of pre- and post-CRP economic trends suggest that, as farmland is taken out of production, job growth in high-CRP areas could initially suffer. However, these impacts appear to be temporary, and they vary widely depending on local economic conditions. In lightly populated areas, high CRP enrollment could support local job growth over the long term by helping program participants stay on their farms. In other areas, CRP's impact on farm-related industries is severe enough to significantly slow total job growth or speed its decline over the short term. But even in these areas, job growth rebounds over the long term as growth in other industries replaces jobs lost by farm-related firms.

### CRP Does Not Accelerate Population Loss

CRP is particularly popular in areas of the country that have long been prone to population loss. That observation, combined with CRP's impact on farm-related employment and the belief that retired

participants move elsewhere after enrolling their entire farms in the program, has led many to argue that high CRP enrollments can lead to depopulation, threatening the survival of nearby communities. It is commonly suggested that CRP could exacerbate rural population loss by allowing participants to take their farms

out of production and move out of farming communities, thereby eliminating farm jobs and both farm-related and consumer service jobs in nearby communities.

Absentee landownership (as measured by the outflow of CRP funds from counties where farmland is enrolled) tends to be highest in high-CRP areas of the country. Using ERS's farm resource regions, the Northern Great Plains, the Prairie Gateway, and the Mississippi Portal all lost 10 percent or more of the 2001 payments earned on their CRP land to enrollees residing elsewhere. But CRP participants seem to be vacating rural areas no more than other farmers. The distribution of CRP payments among counties classified by degree of urbanization is very similar to the distribution of commodity payments for the corn, cotton, and wheat programs. Thus, payment flows more likely reflect pre-existing landownership patterns than residential relocation by CRP participants.

Further analysis suggests that while the number of farms is declining nationwide, counties with high CRP enrollment had no more trouble attracting beginning farmers or retaining farm operators than did low-CRP counties with similar farm

### Distribution of CRP payments was similar to major commodity program payments in 2001

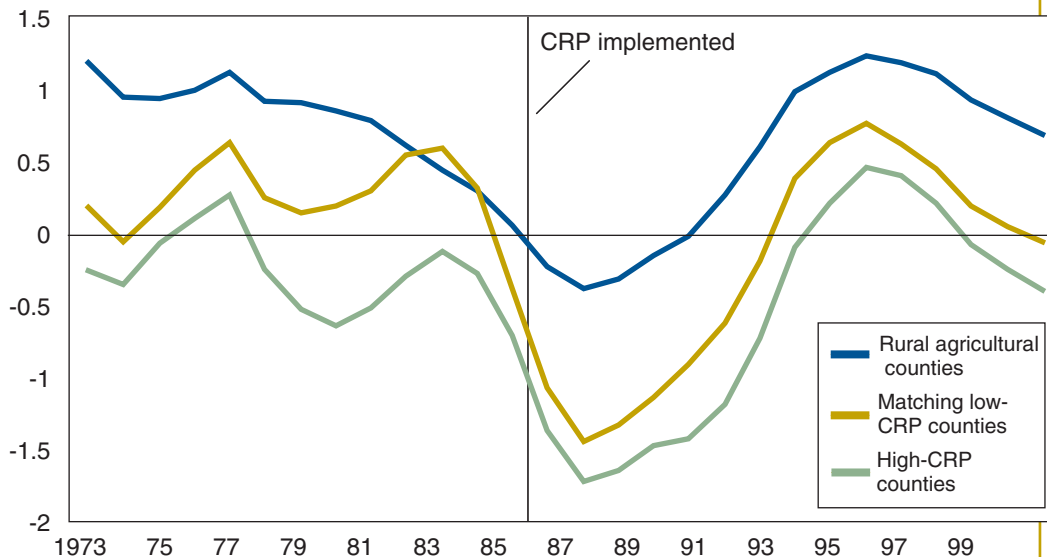
Urban influence at destination*	Cropland	CRP	Corn	Cotton	Wheat
	Percent	Percent of total payments			
None	74	63	57	66	65
Low urban influence	7	9	11	9	9
Medium urban influence	8	9	11	8	9
Strong urban influence	11	19	21	18	17

\*Urban influence at destination refers to the degree of urbanization in the location where the program payment was delivered. Urban influence increases as population size and urban proximity increase (or distance to an urban center decreases). A difference in the distribution of cropland and the distribution of program payments serves as a rough measure of the incidence of absentee ownership of program acres.

Source: Producer Payments Reporting System data from USDA's Farm Service Agency.

## Population trends track closely for high- and matching low-CRP counties

Percent change in population



Note: Lines portray a 3-year moving average change in population. Rural agricultural counties were non-metro with fewer than 20,000 urban residents and more than 5 percent employed in agriculture in 1980. High-CRP counties are those where the ratio of CRP payments to household income exceeds 2.75 percent. Matching low-CRP counties have similar socioeconomic characteristics to high-CRP counties, but have little CRP enrollment.

Source: ERS analysis of Bureau of Economic Analysis Income Files.

sectors. Thus, even high CRP enrollment does not systematically spur the loss of farm populations.

Finally, many counties with high CRP enrollment have experienced population loss since the program's inception. However, the data also show that high-CRP counties were experiencing depopulation long before CRP's implementation in 1986. This suggests that the program may be particularly attractive in areas that are struggling, perhaps because of a lack of off-farm employment opportunities or limited demand for cropland that would be leased or sold to other farm operators in the absence of CRP. But, does CRP exacerbate population problems?

Comparing population trends in high-CRP counties with trends in similar counties having little CRP enrollment highlights the lack of systematic differences that might be attributable to CRP. Once

other factors—such as low population density, isolation from urban centers, and dependence on agriculture—are taken into account, CRP has no statistically significant effect on population trends over either the short or the long term. There may be specific cases where CRP enrollment had a positive or negative effect on population, but in general, CRP enrollment is unrelated to underlying population trends.

### CRP and Farm Communities

CRP is approaching its 20th year of operation. From its inception, concerns have been raised that by retiring millions of acres of cropland, the program could disadvantage farming communities already hard hit by farm sector consolidation and globalization. Clearly the CRP does not benefit everyone, and the conservation benefits enjoyed by society may

come at the expense of a few industries and regions. Nonetheless, results of ERS analyses suggest that CRP does not come at the expense of longrun economic growth in nearby communities. Even high levels of CRP enrollment have only a modest impact on total county employment, and this impact is relatively short lived. ERS simulations suggest that, in the longer term, CRP enrollment may increase local nonfarm output and employment, and bolster household income if the program increases farm commodity prices and improves recreational opportunities. No statistically significant evidence was found that high CRP enrollments were associated with systematic population declines at the county level.  $\mathbb{W}$

### This article is drawn from . . .

*The Conservation Reserve Program: Economic Implications for Rural America*, by Patrick Sullivan, Daniel Hellerstein, LeRoy Hansen, Robert Johannson, Steven Koenig, Ruben Lubowski, William McBride, David McGranahan, Michael Roberts, Stephen Vogel, and Shawn Bucholtz, AER-834, USDA/ERS, November 2004, available at: [www.ers.usda.gov/publications/aer834/](http://www.ers.usda.gov/publications/aer834/)

ERS Briefing Room on Conservation and Environment available at: [www.ers.usda.gov/briefing/conservationandenvironment/](http://www.ers.usda.gov/briefing/conservationandenvironment/)

*Economic Valuation of Environmental Benefits and the Targeting of Conservation Programs: The Case of the CRP*, by Peter Feather, Daniel Hellerstein, and LeRoy Hansen, AER-778, USDA/ERS, April 1999, available at: [www.ers.usda.gov/publications/aer778/](http://www.ers.usda.gov/publications/aer778/)



# U.S. Peanut Sector Adapts to Major Policy Changes

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Until 2002, peanuts were among a small group of U.S. commodities regulated by marketing quotas. As with the tobacco and sugar programs, the peanut marketing quota program originated during the Great Depression as an effort to stabilize grower incomes with supply limitations. The result was higher prices for consumers. With the 2002 Farm Act, however, the longstanding peanut price support system was scrapped. As part of the new program, peanut quota owners received quota buyout payments, and peanut producers are now covered by the same set of supports—marketing loans, direct payments, and countercyclical payments—available to producers of many other program crops.

What pressures led to this striking change in policy and how have farmers fared since? What factors are smoothing, or complicating, the transition to a more market-oriented system? Although the circumstances of peanut producers are unique in many ways, their experience can offer insights for those contemplating similar policy changes for other crops, such as tobacco. (See box, "How Did the Old Program Work? Why Was It Changed?")

The longer term impacts of policy change are still playing out in the peanut sector, but some general observations can be made. First, average farm-level prices and planted acreage have declined compared with pre-2002 levels, but appear to be stabilizing. Second, with increased planting flexibility, peanut production is beginning to shift from some traditional, but less productive peanut-growing locations to higher yielding land. Third, for producers affected by the policy change, farm-level revenues have been bolstered by new sources of government revenue from the 2002 Farm Act, other sources of farm and off-farm income, and an upswing in domestic demand. Finally, producers are managing price risk

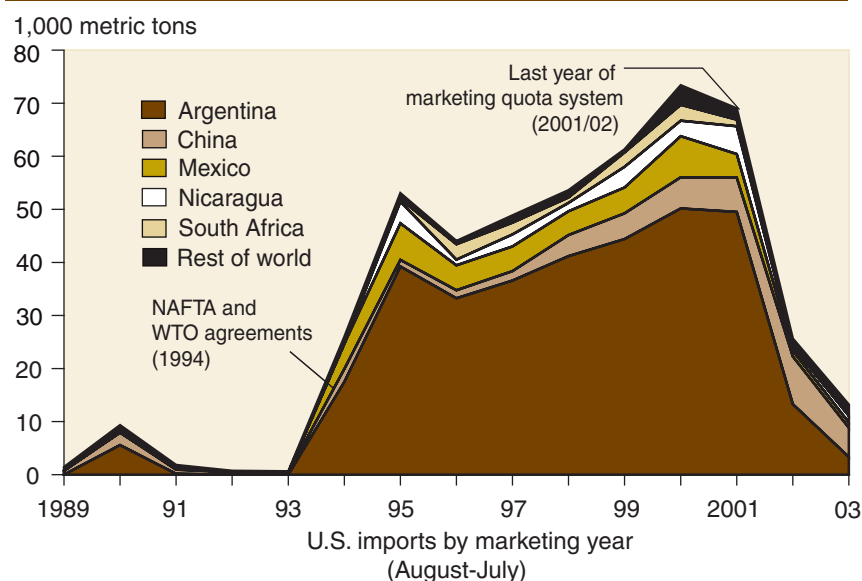
## How Did the Old Program Work? Why Was It Changed?

Prior to 2002, the marketing quota system placed a limit on the amount of peanuts ("quota peanuts") that could be sold in the domestic market for food use (e.g., peanut butter, snacks, candy). Under this system, any peanuts produced beyond the quota level (so-called additional peanuts) had to be exported or diverted into the lower value crush market for oil and peanut meal. Producers who owned or rented quota rights were assured of receiving high prices based on a government-established "quota loan rate" of \$610 per ton during 1996-2001, with higher prices passed along to the consumer. This was well above average production costs, giving growers a strong incentive to produce the amount of peanuts allocated to them under the quota system. Producers not controlling quota rights were guaranteed an "additional" loan rate of only \$132 per ton, but they typically grew peanuts under contract for export at world prices (\$320-\$460 per ton), and responded primarily to demand in foreign markets.

Before 1994, annual peanut imports were capped by U.S. trade rules at a very low level, but in the mid-1990s, trade agreements signed by the U.S. began to gradually increase foreign access to the U.S. peanut market, and placed pressure on the marketing quota system. Under the peanut marketing quota system, import restrictions were needed to reserve the domestic market for higher priced quota peanuts. By undercutting the domestic support price, imports would have sharply reduced the share available to quota producers. As part of World Trade Organization negotiations, the U.S. established a tariff-rate quota (TRQ) system for peanuts, allowing lower-tariff peanut imports to rise to a current maximum of about 53,000 tons, about 6 percent of domestic consumption. A separate TRQ in the North American Free Trade Agreement will allow lower-tariff imports of Mexican peanuts to rise until 2008, and then become completely tariff-free. Mexico is a relatively minor peanut producer, but incentives to produce and export peanuts to the United States would have placed increasing pressure on the U.S. marketing quota program, as would potential new trade agreements.

Some observers suggest that recognition of these competitive pressures resulting from trade agreements—and the additional government resources made available to peanut producers in the 2002 Farm Act—facilitated acceptance of policy change by many growers.

### Before the 2002 Farm Act, peanut imports had cut into the U.S. market



Source: USDA, Foreign Agricultural Service, U.S. Trade Internet System.

predominantly through the use of contracting and marketing associations.

### Lower Prices Bring Reduced Plantings . . .

The relatively recent passage of the 2002 Farm Act makes it difficult to generalize about its impacts on individual peanut growers. Not surprisingly, though, the transition to the new policy environment has been marked by some uncertainty and adjustment pressures for U.S. peanut growers—a small but geographically concentrated group of farmers. For example, farm-level prices and market revenues dropped substantially following the 2002 Farm Act—particularly during the first year (2002) under the new policy. Farm revenues from peanut production fell from an annual average of about \$1 billion during 1996-2001, the period covered under the 1996 Farm Act, to just over \$600 million in 2002, but rebounded to nearly \$800 million in the 2003 marketing year (August-July). With the elimination of supply controls, producers who previously grew nonquota peanuts can now channel

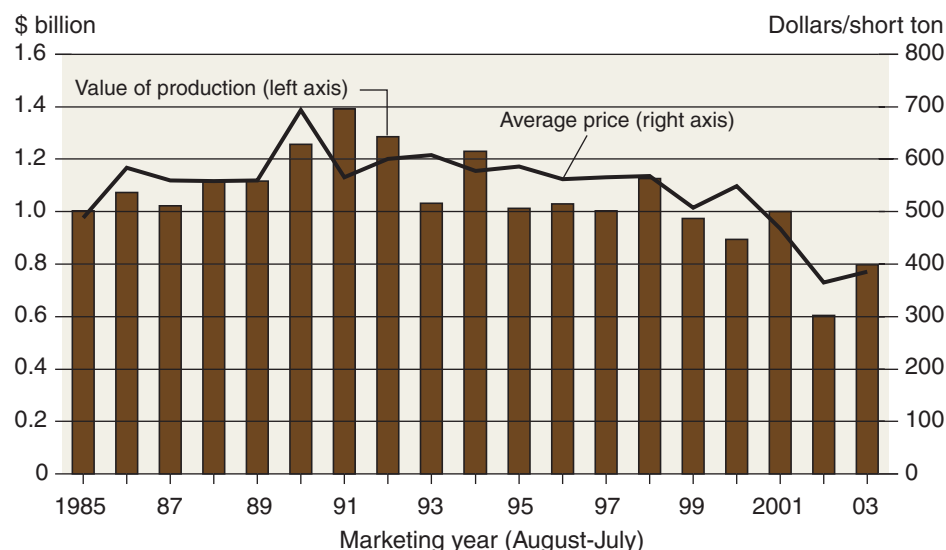
peanuts into the domestic market, pressuring farm-level prices down about 30 percent, from \$468-\$568 per ton during 1996-2001 to \$365-\$385 in 2002 and 2003.

Lower prices have, in turn, dampened production incentives, as indicated by 2 consecutive years of reduced U.S. plantings in 2002 and 2003. Although planted acreage remained stable in Alabama and Georgia and increased in Florida and South Carolina, other peanut-producing States reduced their acreage significantly. In Virginia and Oklahoma, plantings fell about 55 percent between 2001 and 2003; in Texas, they fell 35 percent. National plantings were the lowest since 1982 and second-lowest since 1915. However, plantings in 2004 were up 6 percent from 2003.

### . . . But Some Producers Gain From Greater Flexibility

With the elimination of historical quota entitlements, less competitive peanut producers are now reducing output, most likely by switching to other crops. At the same time, production has

**U.S. peanut producers faced declining prices and revenues following implementation of the 2002 Farm Act**



Note: Data reflect farm-level prices. Prices prior to 2002 are a weighted average of quota and nonquota peanut prices.

Source: USDA, National Agricultural Statistics Service, Agricultural Statistics Database.

begun to expand in areas where—perhaps reflecting better growing conditions or management practices—peanut yields tend to be higher. This is not entirely surprising, as the old program may have hindered planting flexibility of peanut farmers. Under the old quota program, the high cost of acquiring quota rights and restrictions on transferring quota peanuts had concentrated production in areas originally granted quota acreage “allotments.” Starting in 1981, nonquota growers were allowed to produce peanuts anywhere they chose, but only for the lower priced export or crush market, which dampened their incentives to expand. In addition, high prices encouraged less efficient quota holders to continue producing peanuts, and it became costly or impossible for more efficient producers elsewhere to

David Nance, USDA/ARS



Ken Hammond, USDA

acquire quota rights and expand production. The majority of quota peanut production was by growers renting quota rights, but renting quota rights was expensive, equivalent to 25 percent of operating costs in 2001.

Since the 2002 Act, some peanut-producing areas—mainly in parts of the Southeast and western Texas—have significantly expanded acreage over their “base” plantings (peanut “base” refers to

producers’ average peanut acres planted during 1998-2001, which are used to determine, in part, government payments to farmers). In 2003, counties that planted more peanut acres than their peanut base saw an increase of at least 220,000 acres over the 1998-2001 average. The increases suggest that production has become more profitable in these areas following the elimination of restrictions on the domestic sale of nonquota. In areas with

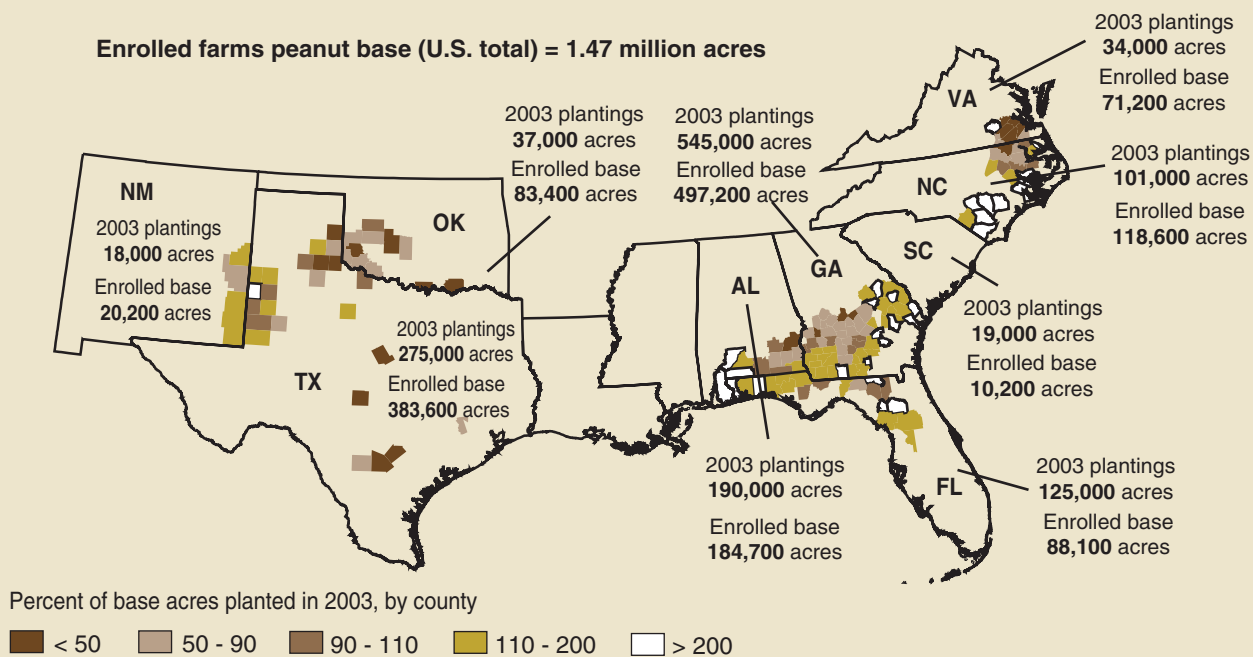
declining acreage, at least 25 percent of available peanut base acres were not planted to peanuts in 2003. Counties that gained acreage typically have better yields than counties where plantings fell, which could help explain the record national average yields achieved in 2003. Ultimately, program changes have spurred growers to base planting decisions more on expected market returns of competing crops, rotational considerations, and yield potential.

## Other Income Sources Cushion Transition to New Program

The elimination of the marketing quota system clearly affected peanut growers in different ways. Inefficient farms that relied on the quota loan rate (support price) of \$610 per ton to cover production costs are on the wane. And despite lower average market prices, other more efficient producers—those who

### Virginia, Oklahoma, and pockets of central Texas and Georgia have lost acreage, but other areas are thriving

Enrolled farms peanut base (U.S. total) = 1.47 million acres



Note: Base acres reflect average 1998-2001 historical peanut plantings enrolled under the 2002 Farm Act.

Sources: ERS calculations using NASS (National Agricultural Statistics Service), Agricultural Statistics Database and FSA (Farm Service Agency), USDA, data. Data not available for all counties.

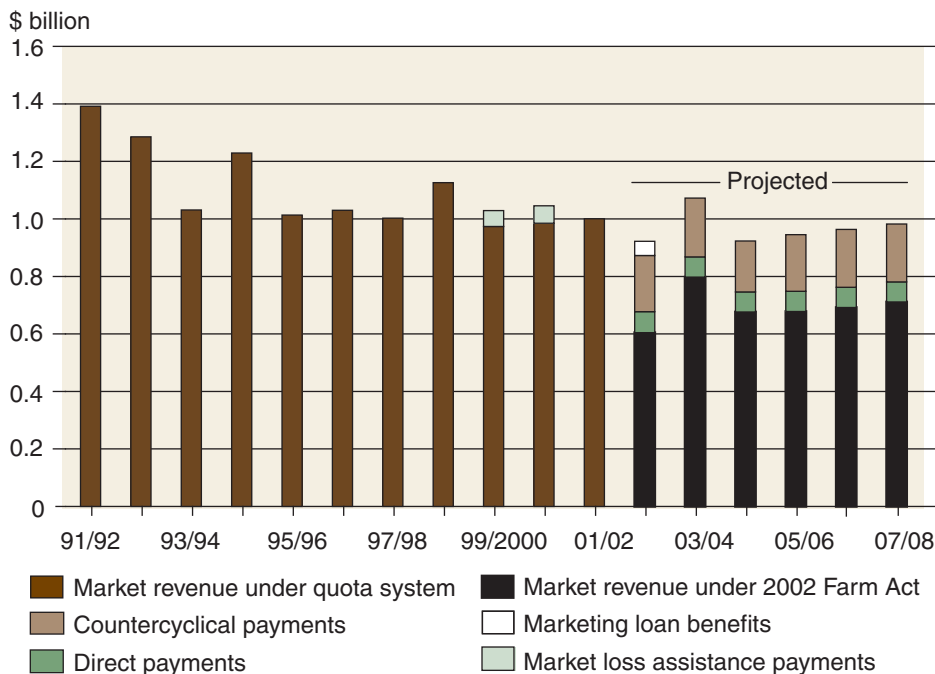
grew nonquota peanuts for export or now have lower costs since they no longer need to rent quota rights—are on the rise.

In either case, the economic impact of losing the quota system has been cushioned by several factors, including new sources of government revenue, off-farm income sources, and the relatively large and diversified structure of typical peanut farms (see box, "The Peanut Economy"). According to the President's fiscal year (FY) 2005 budget, for example, government payments to current and historical peanut producers with enrolled base acres would average \$275 million during 2002-07. Combined with projected market revenues (\$693 million annually), sector revenues would amount to \$968 million annually during 2002-07, about 5 percent

less than average revenues during 1996 to 2001. In addition to these government payments, persons owning a farm with peanut quota as of May 13, 2002, are eligible for a peanut quota buyout program. The buyout includes five annual payments of \$0.11 times the number of pounds of 2001 quota during FY2002-06—or the quota owner could opt for an equivalent lump-sum payment. A total of about \$1.3 billion is expected to be disbursed to nearly 70,000 eligible quota owners, with most having already taken their payment under the lump-sum option.

New sources of government payments include marketing loan benefits, direct payments, and countercyclical payments. For example, all peanut growers can receive marketing assistance loans of

### Government payments boost projected peanut farm revenues to near recent average



Note: Peanut quota buyout payments not included. Data do not reflect government-paid storage and handling fees under the new program or cost savings associated with the elimination of quota rental payments.

Sources: 1991/92 - 2001/02: Farm Service Agency, National Agricultural Statistics Service (Agricultural Statistics Database), USDA; 2002/03 - 2007/08: Office of Management and Budget and World Agricultural Outlook Board, USDA.

### The Peanut Economy

Peanuts are a relatively minor crop in the U.S. During the 1996 Farm Act (1996-2001), peanuts were grown on about 12,000 farms, averaging \$1 billion annually in peanut revenues—only 1 percent of U.S. crop production value. Due to the crop's soil and climate requirements, virtually all peanut production occurs in just a few States. The Southeast (Georgia, Alabama, Florida, and South Carolina) had 60 percent of national production during 1999-2001; the Southwest (Texas, Oklahoma, and New Mexico) had 28 percent; and the Mid-Atlantic (Virginia and North Carolina) had 12 percent. In Georgia and Alabama, peanuts accounted for over 20 percent of total State crop value in 2000/01-2001/02, but the peanut share of production value was lower (2 to 7 percent) in the other States.

According to the 2002 Agricultural Resource Management Survey (ARMS), peanut farms tend to be larger than average farms in peanut-growing areas—averaging 676 acres of cropland—and are fairly diversified. Peanuts are typically grown in a 3- to 4-year rotation on farms that grow cotton, soybeans, corn, and wheat. Cotton is the most common crop alternative. Peanut acres averaged only one-fifth of cropland on peanut-growing farms, but peanuts provided nearly 30 percent of total crop revenue. Producers exiting peanut production would thus likely emphasize crops already grown on the farm, avoiding additional investments in equipment and skills to grow new crops.

ARMS data also show that peanut producers had comparatively high overall household (farm and off-farm) incomes, which averaged about \$77,000 in 2002. This was about 30 percent higher than average incomes for nonfarm households. Combined with a diversified farm enterprise, sources of off-farm income will likely help offset changes in revenue under the new program.



Don Schuhart, USDA

\$355 per ton on current production. Farmers with peanut base are eligible for fixed direct payments of \$36 per ton, and countercyclical payments that, depending on market prices, could reach \$104 per ton. To receive direct and countercyclical payments, historical producers were required to establish peanut base acreage and payment yields on their farms, which most—covering about 96 percent of eligible land—elected to do. These payments are available even if the eligible farmer chooses not to produce peanuts, so a portion may go to farmers no longer growing peanuts. Direct and countercyclical payments equal 85 percent of the farmer's base acres times their recent yield history (payment yield) times the direct or countercyclical payment rate.

In crop year 2002, marketing loan benefits to peanut producers amounted to \$49.7 million, direct payments totaled \$73.1 million, and countercyclical payments came to \$195 million. Marketing loan benefits are not expected to contribute to peanut sector revenue during the remainder of the 2002 Farm Act since prices are expected to remain above the marketing loan rate, but annual direct and countercyclical payments are projected to be about the same as in 2002.

### Outlook Optimistic as Demand Accelerates . . .

One clearly optimistic note for the peanut sector has been the rebounding demand for peanuts and peanut products in recent years. In fact, the estimated 10-percent growth of U.S. peanut consumption in 2003/04 was the fastest annual growth in more than a decade, raising food-use demand to record levels.

Despite the lower farm-level prices since 2002, it's not clear whether policy changes in the 2002 Farm Act or other factors are responsible for this demand growth. Since peanuts are affordable to begin with, the responsiveness of consumers to changes in prices is likely low. Plus, consumption growth had already been on an upward trend since the mid-1990s. At the same time, retail prices for peanut butter—the leading use for peanuts—are now starting to trend down after initially rising following passage of the 2002 Farm Act. It is also likely that increased advertising, the introduction of new products, and reduced input costs for peanut processors have boosted overall peanut demand. Of course, the popularity of high-protein low-carbohydrate diets hasn't hurt demand either. A July 2003 FDA ruling allowing packaged peanuts to contain "qualified health claims" associat-

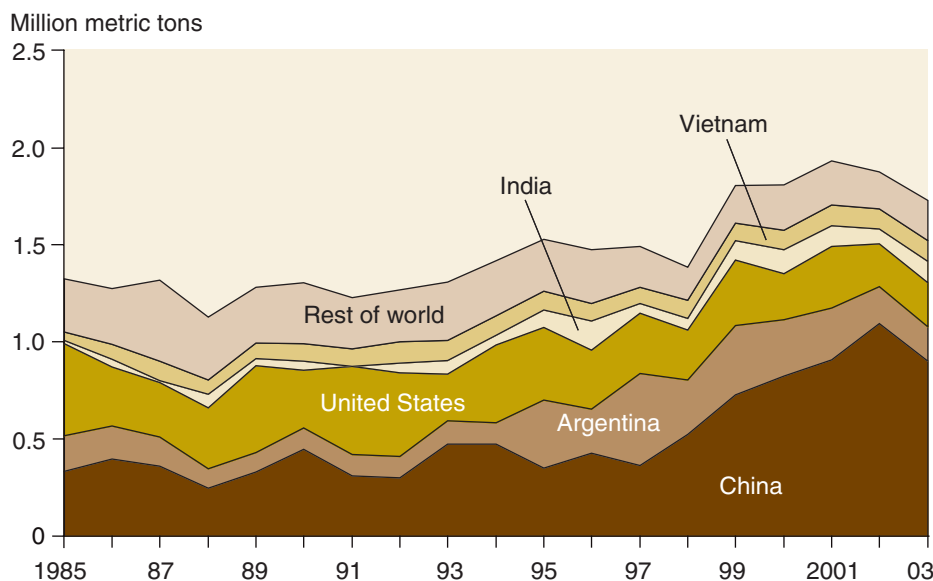
ing peanut consumption with reduced risk of heart disease could further this momentum.

While domestic demand has been rising, the outlook for U.S. exports looks less promising. "Additional" (nonquota) peanut producers had been exporting peanuts for decades, with exports typically accounting for 15 to 25 percent of U.S. production. A reputation for high quality has allowed U.S. sellers to command a price premium in international markets (primarily the European Union, Canada, and Mexico), but the U.S. has faced more competition from lower cost exporters of late. As a result, U.S. peanut exports have been on a downward trend since the early 1990s. China now controls more than half of global exports, with India, Argentina, and Vietnam significant too. Although the U.S. remains the world's second leading peanut exporter, the 2002 Farm Act may have weakened export incentives, as U.S. producers who grew nonquota peanuts for export can now market their peanuts domestically. On the other hand, lower domestic prices have reduced import incentives, and peanut imports have fallen by more than half since the 2002 Farm Act.

### Limited Price Information Remains Challenging Issue for USDA, Peanut Growers

Under the marketing quota program, peanut prices had been determined directly by government policy for many years. But now, current and timely market price information for peanuts has become elusive due to the relatively small number of U.S. peanut producers and purchasers, sporadic sales, and the absence of a market exchange. This has posed challenges for policy implementation as well as for farmers' risk management strategies.

### China has emerged as the world's leading peanut exporter



Source: USDA, Foreign Agricultural Service (PS&D online).

For example, the lack of consistent price information has complicated USDA's task of establishing the weekly marketing assistance loan repayment rate for peanuts—the market price barometer used to determine the level of potential marketing loan benefits. In addition, with fewer sources of price information, peanut growers also have fewer marketing options than producers of bulk com-

modities, who can spread risk by timing sales based on cash or futures prices. As a result, most peanut farmers are managing price risk by using government marketing loans and by entering into private marketing contracts with peanut buyers. Another option is to participate in one of the three Cooperative Marketing Associations that have been formed since 2002. These associations can process

marketing assistance loans on behalf of USDA and have the authority to market peanuts on behalf of their members—providing participants with increased flexibility and bargaining power.

Despite these complications, the major policy shift introduced by the 2002 Farm Act has increased the market orientation of the peanut sector. As peanut growers continue to adapt to the new environment, production decisions will increasingly be guided by demand conditions, as well as by growers' assessments of the relative profitability of producing peanuts compared with other crops. *W*

#### This article is drawn from . . .

*Peanut Policy Change and Adjustment Under the 2002 Farm Act*, by Erik Dohman, Linwood Hoffman, Edwin Young, and William McBride, OCS-04G-01, USDA/ERS, July 2004, available at: [www.ers.usda.gov/publications/ocs/jul04/ocs04g01/](http://www.ers.usda.gov/publications/ocs/jul04/ocs04g01/)

*The 2002 Farm Bill: Provisions and Economic Implications*, USDA/ERS, July 2002, available at: [www.ers.usda.gov/features/farmbill/titles/titlecommodities.htm](http://www.ers.usda.gov/features/farmbill/titles/titlecommodities.htm)



Don Schuhart, USDA

# Low-Skill Jobs

## A Shrinking Share of the Rural Economy

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A signature feature of the 20th-century U.S. economy was the rise in skills required by employers. Jobs involving physical, routine tasks consequently declined as a share of national employment, and their historical predominance in rural areas is waning. In the 1990s, the rural economy slightly outpaced the national decline in low-skill job share, reflecting rural America's participation in an increasingly skill-intensive national economy. The trend toward a high-skill economy, along with higher wages and less job volatility, is considered a fundamental indicator of economic development.

The long-term decline in rural low-skill jobs stemmed first from a steep decline in farm employment and more recently from declines in rural manufacturing. Today, most low-skill jobs in rural areas are in the service sector—government, trade, and consumer and business services—rather than in the goods production sector represented by agriculture, mining, construction, and manufacturing. Yet the transition to a service economy has been accompanied by rising skill and earnings levels in rural areas, in part because the typical service job is less likely to be

low-skill than the typical goods production job. More importantly, shifts to more skilled occupations within industries—not industrial change—drove the drop in the low-skill share of jobs in the 1990s, with distinct implications for rural economic development. Rural areas with limited resources may thus do better to pursue development strategies incorporating skill upgrades within the current mix of industries rather than attempting a significant shift in local industries.

For individual rural workers, jobs requiring higher skills pay substantially more and have better benefits, on average, reducing employees' need for Federal and State support services. For rural communities, a high-skill job mix indicates an upward development track, making such places less vulnerable to international competition and more attractive to long-term, high-wage employers. Although low-skill jobs (see box, "Measuring Job Skills") were still more prevalent in rural areas in 2000 (42 percent) than in the Nation as a whole (35.5 percent), the rate of decline in low-skill share of employment was faster for rural than urban areas in the 1990s. The total number of low-skill jobs in rural





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areas increased slightly during the 1990s, however, because of robust rural employment growth.

### Has the Shift to a Service-Based Economy Slowed the Decline in Low-Skill Jobs?

According to some observers, the shift from a goods-based to a service-based economy has inhibited rural America's

movement along a high-skill economic path. Rural areas are sometimes hard-pressed to compete for the high-skill service sector jobs (for example, financial service jobs) that require high population density, high disposable income, and sophisticated communications and transportation infrastructures. And because average pay is generally lower for jobs in services than in traditional goods, service workers often

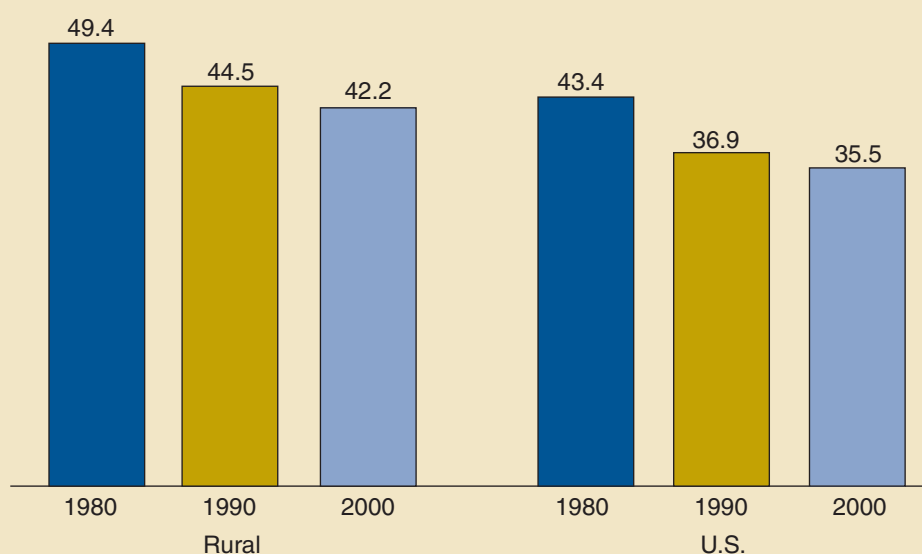
end up worse off economically than before, widening the gap between top earners and bottom earners.

A more favorable view holds that the goods-to-services shift indicates convergence with higher skilled urban economies. As educational levels and capital investments grow in some rural labor markets, so too does the ability to attract and retain a vibrant high-skill service sector. Furthermore, increasing skill requirements appear to reflect broad changes across the rural economy, not the transition to services per se.

To address this debate, it is helpful to think of the decline in low-skill employment share as an outcome of two types of change: (1) in the *kinds* of goods and services produced, reflected in *industry* composition change; and (2) in the *way* that goods and services are produced, reflected in *occupational* changes within industries. As an example of the first kind of change, the growth in physicians' offices and clinics in rural areas in recent decades has helped raise overall rural skill levels because physicians and nurses typically have high-level skills. As an example of the second type of change, the textile industry too has recently helped raise overall rural skill levels as it shifts away from (low-skill) production workers

### U.S. and rural low-skill employment share, 1980, 1990, and 2000

Percent of total employment



Source: Calculated by ERS using data from the U.S. Census Bureau.

### Measuring Job Skills

This article uses occupation as the basic measure of job skill. Occupations differ according to the knowledge and abilities necessary to perform the tasks that define them. We draw upon a set of seven skill dimensions from the *Dictionary of Occupational Titles (DOT)*, produced by the U.S. Department of Labor, each measuring a different aspect of the intellectual or physical complexity of the occupation, or the level of formal knowledge required. Included are three "general educational development" levels of the job with respect

to math, language skills, and general reasoning; three "functional level" variables that characterize occupations by the sophistication of interactions with people, data, and things; and the extent of "specific vocational preparation" required for the job.

These seven measurements are then added to produce a single number, or skill index. Low-skill occupations are those that fall below the median index value for the slightly more than 500 occupations considered. However, 22 of the 218 occupations below the median are not classified as "low

skill" because of the high average educational attainment of workers in those occupations, leaving 196 low-skill occupations.

Occupational data are drawn from the 1990 and 2000 Current Population Survey microdata earnings files (CPS) produced by the U.S. Census Bureau. Data were adjusted using labor force estimates from the 1990 Census to correct for differences between the 1990 and 2000 CPS in the definition of nonmetro areas.

toward (higher skill) managers and other white-collar occupations (although total employment has declined as well). Technological changes may also affect the *skill content* of particular occupations, by requiring greater computer literacy of clerical workers or fewer computational skills of sales people.

ERS researchers found that, independent of other effects, the goods-to-services transition led to a slight decrease in the low-skill share of rural employment between 1990 and 2000. Employment in the goods-producing sector (relatively low-skill jobs) fell relative to employment in the service sector, resulting in a reduction in the low-skill share. The effect was more pronounced in rural areas because the relative size of the goods-producing sector is larger than in urban areas, and because the low-skill share of rural, goods-producing employment is much higher.

However, the industry mix was also changing within the goods and service sectors themselves during the 1990s. Declines in rural low-skill industries within the goods-producing sector—as in the apparel industry and the yarn, thread, and fabric mill industry—reduced the low-skill employment share. Leading the list of relatively high-skill and rapidly growing goods-producing industries in rural areas were construction and livestock agriculture.

Conversely, shifts between industries in the larger service sector tended to increase the low-skill employment share. Major low-skill service industries with rapid employment growth in rural areas during the 1990s included trucking, department stores, and hotels and motels. High-skill service industries with slow or negative job growth included elementary and secondary schools, colleges and universities, banking, and insurance. Ultimately, the impact of inter-industry shifts within the service sector was smaller than the combined impact of shifts *within* goods and *from* goods to services.

Hence, the overall impact of industrial change was to reduce the low-skill share of employment in rural areas.

Growth in the rural service sector appears to have contributed to increases in the number of rural high-skill jobs, but were rural workers better off? Service jobs are typically perceived as paying less than jobs in the goods sector, but evidence suggests that the reality is more complicated. Earnings for rural full-time service-sector workers were indeed 17 percent lower than for goods-sector workers in 2000. Among workers in low-skill jobs, wages were 15 percent lower in services than in goods. But many of the low-skill goods jobs that disappeared in rural areas were replaced by *higher skill* service jobs that paid more. Even among workers with at most a high school diploma, these higher skill service jobs typically paid 11 percent more than low-skill goods jobs. This finding helps to explain why earnings rose in the 1990s for less educated rural workers as the rural economy shifted toward service provision. So the net effect of employ-

## What Is Rural?

Statistics reported here are based on the metropolitan (metro) and non-metropolitan (nonmetro) definitions announced by the Office of Management and Budget in 1993. Metro areas contain (1) core counties with one or more central cities of at least 50,000 residents or with a Census-defined urbanized area (and a total metro area population of 100,000 or more), and (2) fringe counties that are economically tied to the core counties. Nonmetro counties are outside the boundaries of metro areas and have no cities with as many as 50,000 residents. The data reported are for nonmetro and metro areas, but here we use the terms “rural” and “urban” for ease of exposition.

### Total and low-skill employment in rural areas, 1990-2000

	1990	2000
	<i>Thousands</i>	
All industries:		
Total employment	21,453	24,399
Low-skill employment	9,536	10,298
Percent low-skill	44.5	42.2
Goods-producing sector: <sup>1</sup>		
Total employment	7,759	8,240
Low-skill employment	4,330	4,202
Percent low-skill	55.8	51.0
Service-provision sector: <sup>2</sup>		
Total employment	13,694	16,160
Low-skill employment	5,206	6,095
Percent low-skill	38.0	37.7

<sup>1</sup> Includes agriculture, mining, construction, and manufacturing.

<sup>2</sup> Includes transportation, communications, and utilities; finance, insurance, and real estate; government; and other services.

Source: Calculated by ERS using data from the U.S. Census Bureau.

ment shifts from goods to services was both to lower the share of rural jobs in low-skill occupations and to raise rural earnings.

### Occupational Change—How Much of an Impact?

While industry changes are partly behind the declining low-skill share of employment, a shift in employment toward high- and medium-skill occupations *within industries* accounted for a larger portion of the decline. Advances in production technology that complement skilled labor or substitute for less skilled labor (such as computer-assisted technology) appear to be the driving force behind the overall drop.

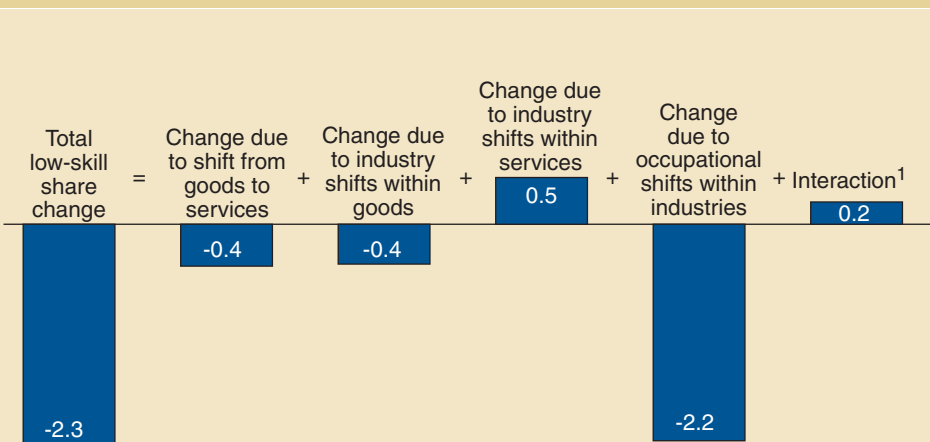
The shift from lower to higher skill occupations within industries was most pronounced in the goods-producing sector. The share of low-skill jobs fell for manufacturing, construction, and agriculture, and the declines were especially large in crop agriculture, lumber mills, and apparel. These industries face intense competition from imports that often vie with low-skill production work.

In services, low-skill job shares fell in professional/business services; communications and utilities; and finance, insurance, and real estate. Hospitals and grocery stores showed especially large shifts toward higher skill occupations in the 1990s. Many of these industries have little or no exposure to import competition, but face significant pressure to reduce costs due to industry restructuring. In many cases, employers in these industries have reconfigured the way that services are provided, often with computer-assisted technologies.

Still, many industries—such as wholesale trade, mining, retail trade, and health services—saw the share of low-skill jobs grow during the 1990s. In rural areas, the low-skill share grew in about a third of all industries (accounting for 32

### How industry and occupational change between 1990 and 2000 affected low-skill job share

Percent of total employment in 1990



<sup>1</sup>An interaction term captures change not attributable to a single source.  
Source: Calculated by ERS using data from the U.S. Census Bureau.

percent of rural employment). These industries saw substantial increases in their low-skill employment share. Nonetheless, these increases were dwarfed by the increase in occupational skills in the rest of the rural economy, leading to an overall decline in rural low-skill employment share.

### Who Was Most Affected by Low-Skill Shifts?

The decline in the low-skill share of jobs from 1990 to 2000 was largest among rural women (-4.3 percentage points) and rural Blacks (-5.2 percentage points). When race and sex are considered simultaneously, the largest declines occurred among Black women (-7.3 percentage points) and White women (-4.9 percentage points). Declines for most other groups were near the rural average of 2.3 percentage points. Hispanics, however, increased their low-skill job share, with an increase of 3.3 percentage points for Hispanic men.

A few key employment shifts accounted for much of the change among groups of workers. First, the share of rural

women in managerial and professional occupations grew by nearly half during the 1990s, from 21 to 30 percent of all women employed. And this share grew for women of all racial/ethnic groups. On the other hand, occupations where the share of employment fell differed by race. For White and Hispanic women, the shift was most noticeable out of the sales, clerical, and administrative support group. Blue-collar jobs, nearly all low-skill, led the decline among rural Black women, falling from 30 to 18 percent of Black women's employment, but held steady among Hispanic women at 17 percent of their overall employment. These jobs tend to be primarily in manufacturing. Black women alone saw large gains in the service occupations. Because the service jobs held by rural Black women are less likely to be low-skill than blue-collar jobs, their movement from blue-collar to service jobs reduced their low-skill employment share.

The increase in low-skill employment among rural Hispanic men results largely from a shift between two occupational groups with high shares of low-skill

employment. During the 1990s, low-skill workers became less likely to be employed in farming jobs and more likely to be found in blue-collar manufacturing jobs.

Earnings rose in rural areas for all demographic groups in the 1990s, but the greatest increases occurred among those groups with the largest declines in low-skill share. The association between earnings and higher skills cannot be attributed solely to rising educational levels. For example, even among workers who did not attend college, a lower share employed in low-skill jobs translated into higher earnings overall.

### Why Has the Decline Slowed in the Low-Skill Share of Jobs?

What happened to the widely touted rise in job skills of the 1990s? After all, the low-skill share of employment declined by over five percentage points in rural areas, and nearly six points nationally, during the 1980s. Why was the decline in the 1990s so much smaller than in the previous decade? One possibility is that

increased immigration may have made less skilled labor cheaper, thereby delaying the shift to higher skill production methods. Where immigration was higher, as in many large metro areas, the decline in low-skill share was generally smaller.

In some cases, technological change may actually have dampened employers' replacement of less-skilled labor. The mix of technology changes may have shifted from more skill-intensive in the 1980s—such as the introduction of spreadsheet programs for personal computers—to less skill-intensive in the 1990s—such as cash register icons for frequently ordered items in foodservice outlets. This possibility coincides with the wage gap between the most and least educated workers growing more slowly in the 1990s, despite continuing advances in computer technology.

A final possibility is that changing skill requirements *within* occupations accelerated during the 1990s, which would not have been fully captured by occupation and industry mix changes. A growing body of evidence suggests that the wide-

spread diffusion of computer-related production technologies has changed the content of occupations, from the field to the factory floor to the office cubicle. Further research may allow better explanations for the apparent slowdown in raising skill levels during the 1990s.

### Transition to Service Jobs Elevated Rural Job Skills and Earnings

Economic forces have changed the nature of work in rural America, affecting the well-being of workers, their families, and their communities. In the 1990s, these forces led to a gradual upgrading of rural skills, as more and more jobs required higher levels of education and training. Technological change, global shifts in the geography of production, and large investments in human capital prompted rapid growth in jobs requiring high levels of formal education and technical knowledge. Census data confirm that the average educational attainment of rural adults rose along with job skill



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#### Nonmetro low-skill employment shares by selected characteristics, 1990-2000

	2000 low-skill share	1990-2000 change
	Percent	
White	39.0	-3.0
Male	41.2	-1.4
Female	36.4	-4.9
Black	64.0	-5.2
Male	69.3	-2.3
Female	59.2	-7.3
Hispanic	67.1	2.5
Male	70.8	3.3
Female	61.6	2.1
All male	44.6	-0.8
All female	39.4	-4.3
Total	42.2	-2.3

Source: Calculated by ERS using data from the U.S. Census Bureau.



Ken Hammond, USDA

requirements. Thus, rural areas appear to be participating in the movement toward a high-skill national economy.

These findings should allay some concerns about losing jobs in the goods-producing sector to low-paying, low-skill service sector jobs. On balance, the transition to a service economy has helped to raise the skill and earnings levels of jobs in rural areas. More importantly, the goods-versus-services debate misses the point that shifts to more skilled occupations within industries—not industrial change—drove the drop in the low-skill share of jobs in the 1990s, with distinct implications for rural economic development.

Rural areas with limited resources would do better to pursue development strategies incorporating skill upgrades within the current mix of industries rather than attempting a significant shift

in local industries. Two critical rural strategies are: (1) to invest in education and training, and (2) to encourage new technology adoption by local industry that creates higher skill work.

However, educational and technological strategies will not be viable in all rural places. Where jobs lost in farming, mining, or manufacturing have not been replaced, the remaining service-dominated jobs often indicate an economy with few prospects for growth. Additionally, not all workers are equally well positioned to participate in higher skill labor markets. Women and Blacks generally benefited from the decline in low-skill share, but Hispanics experienced a rising share of low-skill work and lower earnings growth. Strategies tied to place of residence will not always work. However, the most effective Federal and State labor

policies will be those that ensure that labor market differences are transitory, and that in the long run, better educational and career prospects are available regardless of residence.

Educational opportunities and assurances of gainful work are especially important for the least skilled, least educated in the workforce. Some of these workers did not ride the upward shift in occupational mix, and the goods-to-services transition was less favorable for them. Low-skill earnings for noncollege-educated, full-time service workers were \$428 per week, on average, in 2000, or 13 percent less than the \$491 per week earned by

comparable workers in the goods sector. Given the sharp drop in manufacturing employment since 2000, less educated workers may find themselves with few options other than low-pay, low-skill service jobs. Others, however, will undoubtedly acquire the additional training needed to move up the occupational ladder. As they follow the rural economy's path from low-skill goods jobs to higher skill service jobs such as management, their wage prospects will rise accordingly. W

#### **This article is drawn from . . .**

ERS Briefing Room on Rural Labor and Education, available at: [www.ers.usda.gov/briefing/laborandeducation/](http://www.ers.usda.gov/briefing/laborandeducation/)

*Rural Education at a Glance*, by Robert Gibbs, RDRR-98, USDA/ERS, November 2003, available at: [www.ers.usda.gov/publications/rdr98/](http://www.ers.usda.gov/publications/rdr98/)

# U.S. food and agriculture: Today and beyond

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### Farm, Rural, and Natural Resources Indicators

	1990	2000	2001	2002	2003	2004	Annual percent change		
							1990-2000	2002-03	2003-04
Cash receipts (\$ billion)	169.5	192.0	199.8	192.9	212.4f	215.0f	1.3	10.1	1.2
Crops	80.3	92.4	93.4	99.5	106.7f	114.3f	1.4	7.2	7.1
Livestock	89.2	99.5	106.4	93.5	105.6f	100.7f	1.1	12.9	-4.6
Direct government payments (\$ billion)	9.3	22.9	20.7	11.0	17.4f	10.3f	9.4	58.2	-40.8
Gross cash income (\$ billion)	186.9	228.6	235.3	219.4	244.9f	240.9f	2.0	11.6	-1.6
Net cash income (\$ billion)	52.7	56.5	59.2	49.1	63.0f	55.9f	0.7	28.3	-11.3
Net value added (\$ billion)	80.8	92.0	94.2	76.9	98.9f	93.0f	1.3	28.6	-6.0
Farm equity (\$ billion)	702.6	1,025.6	1,070.1	1,110.7f	1,160.5f	1,198.1f	3.9	4.5	3.2
Farm debt-asset ratio	16.4	14.8	14.8	14.8f	14.7f	14.6f	-1.0	-0.7	-0.7
Farm household income (\$/farm household)	38,237	61,947	64,117	65,757	67,453f	66,732f	4.9	2.6	-1.1
Farm household income relative to average U.S. household income (%)	103.1	108.6	110.2	113.7	na	na	0.5	na	na
Nonmetro-Metro difference in poverty rate (%)	3.6	2.6	3.1	2.6	2.1	na	-3.2	-19.2	na
Cropland harvested (million acres)	310	314	311	307	314p	na	0.1	2.3	na
USDA conservation program expenditures (\$ bil.) <sup>1</sup>	3.0	3.4	3.7	3.5q	na	na	1.3	na	na

### Food and Fiber Sector Indicators

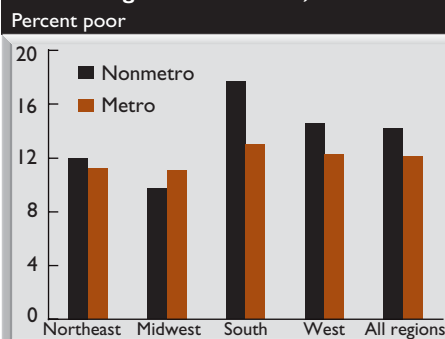
U.S. gross domestic product (\$ billion current) <sup>2</sup>	5,803	9,825	10,082	10,446	10,863f	na	5.4	4.0	na
Food and fiber share (%)	15.1	12.6	12.3	na	na	na	-1.8	na	na
Farm sector share (%)	1.4	0.8	0.8	0.8	na	na	-5.4	na	na
Total agricultural imports (\$ billion) <sup>1</sup>	22.7	38.9	39.0	41.0	45.7	52.5	5.5	11.5	14.9
Total agricultural exports (\$ billion) <sup>1</sup>	40.3	50.7	52.7	53.3	56.2	62.0	2.3	5.4	10.3
Export share of the volume of U.S. agricultural production (%)	27.1	22.8	22.9	22.5	21.1p	na	-1.7	-6.2	na
CPI for food (1982-84=100)	132.4	167.9	173.1	176.2	180.0	186.4f	2.4	2.2	3.6
Share of U.S. disposable income spent on food (%)	11.2	10.1	10.2	10.1	10.1	na	-1.0	0.0	na
Share of total food expenditures for at-home consumption (%)	55.4	53.3	53.9	53.8	53.1	na	-0.4	-1.3	na
Farm-to-retail price spread (1982-84=100)	144.5	210.3	215.4	221.2	na	na	3.8	na	na
Total USDA food and nutrition assistance spending (\$ billion) <sup>1</sup>	24.9	32.6	34.2	38.0	41.8	na	2.7	10.0	na

f = Forecast. p = Preliminary. q = 2002 Administration request. na = Not available.

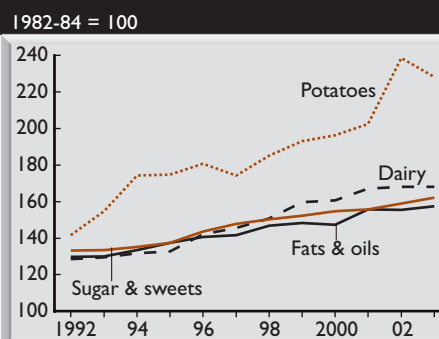
<sup>1</sup> Based on October-September fiscal years ending with year indicated.

<sup>2</sup> Forecast for 2003 based on the Office of Management and Budget's Midsession Budget Review, July 2003.

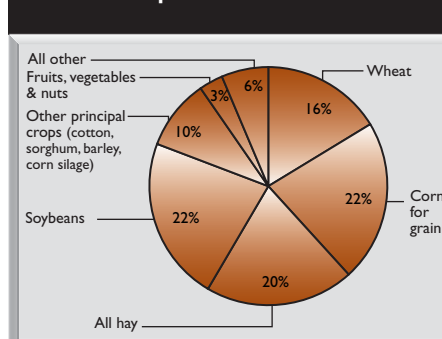
### Nonmetro-metro difference in poverty rates is largest in the South, 2003



### Consumer price indexes for selected foods consumed at home



### Crops harvested in 2003 as a share of total U.S. cropland harvested



For more information, see [www.ers.usda.gov/amberwaves/](http://www.ers.usda.gov/amberwaves/)

## Behind the Data

### Estimating U.S. Cropland Area

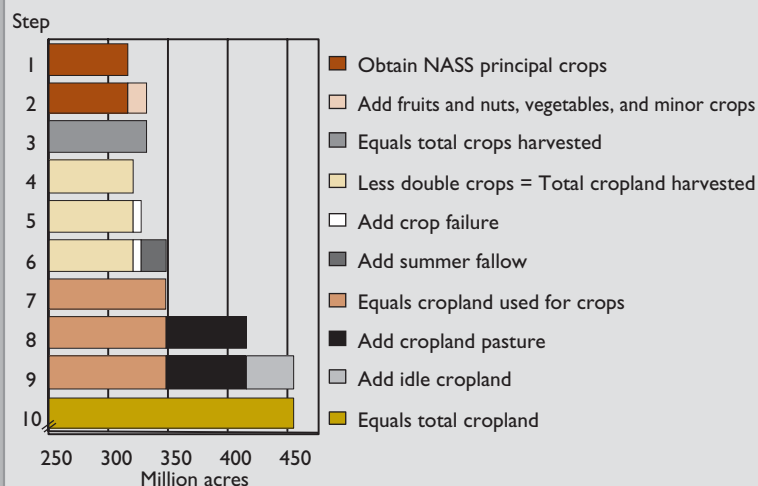
Measuring cropland area is essential for assessing the economic and environmental performance of U.S. agriculture. ERS tracks cropland in its annual “cropland used for crops” data series, which began in 1910. Cropland used for crops is the sum of cropland harvested, crop failure, and summer fallow. (Total cropland is part of the ERS Major Land Use series, started in 1945, that accounts for all land use in the 50 States.)

The data behind the ERS cropland series come from the *Crop Production Annual Summary* published by USDA’s National Agricultural Statistics Service (NASS). This survey includes harvested acres of principal crops, the predominant field crops in U.S. agriculture. In 2003, 21 principal crops accounted for about 95 percent of all harvested crop acreage in the United States, but just four crops—corn, soybeans, wheat, and hay—accounted for about 80 percent of all cropland harvested acreage.

The acreages of other crops (fruits and nuts, vegetables, and minor crops), which are published every 5 years by the U.S. Census of Agriculture and change little from one census year to the next, are added to the acres of principal crops to derive total crops harvested. In 2002, “other crops” comprised over 40 other crops plus nursery and greenhouse products. While these crops take up relatively little acreage, they can account for large market value shares of sales.

The *Crop Production Annual Summary* report counts all acres harvested, including double cropping. However, each cropland acre can only be counted once; thus, double cropping is subtracted from total crops harvested because cropland used for crops becomes part of the ERS *Major Land Use* series, which must sum to total U.S. land area. The result is total cropland harvested. Most double cropping occurs when soybeans are planted after the harvest of small grains (mainly wheat) in the same year, and these estimates are from the annual NASS acreage report published in June. Smaller acreages of other crops are also double cropped, and these estimates are from the Census of Agriculture.

### Estimating U.S. cropland area, 1997



*Major Uses of Land in the United States, 1997*, by Marlow Vesterby and Kenneth S. Krupa, SB-973, USDA/ERS, August 2001, available at: [www.ers.usda.gov/publications/sb973/](http://www.ers.usda.gov/publications/sb973/)

Crop failure is the difference between cropland planted and cropland harvested. However, some cropland planted is not intended to be harvested. Thus, adjustments are made to account for cover crops, crops grazed, and crops cut for hay. Data for these adjustments are from the *Crop Production Annual Summary* and the Census.

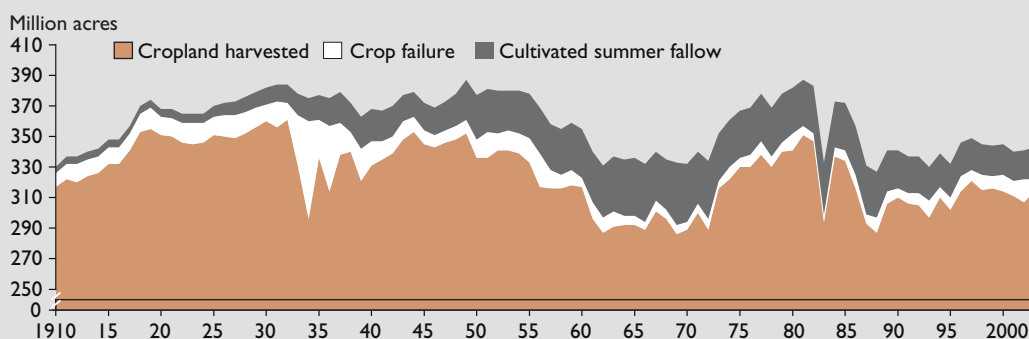
Cultivated summer fallow occurs predominantly in the Great Plains where it is a practice used to conserve moisture and control weeds. Fields are typically planted and harvested one year and summer fallowed the next. Acreage estimates are obtained from NASS, the Census of Agriculture, or the Conservation Technology Information Center. When no data are available, ERS estimates summer fallow based on the acreage of wheat in the major summer-fallow States. The

use of summer fallow has slowly declined over the last 30 years, due mostly to the increased adoption of conservation tillage and herbicides, which reduce the need for summer fallow to conserve moisture and control weeds.

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**For more information,** see the Major Uses of Land chapter of the ERS Briefing Room on Land Use, Value, and Management, available at: [www.ers.usda.gov/briefing/land-use/majorlandusechapter.htm/](http://www.ers.usda.gov/briefing/land-use/majorlandusechapter.htm/)

### Cropland used for crops has remained relatively constant for the last 90 years, though it varied by as much as 14 percent from year to year

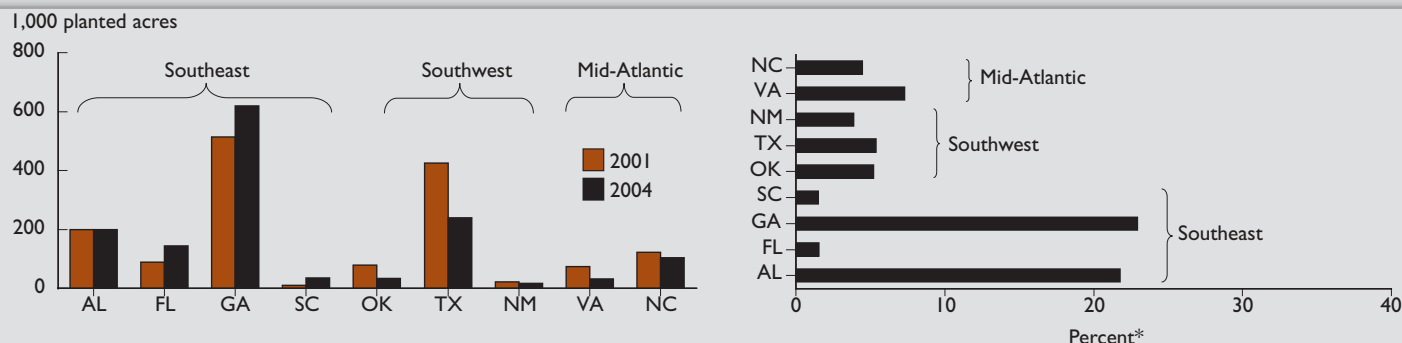


*Major Uses of Land in the United States, 1997*, by Marlow Vesterby and Kenneth S. Krupa, SB-973, USDA/ERS, August 2001, available at: [www.ers.usda.gov/publications/sb973/](http://www.ers.usda.gov/publications/sb973/)

## Markets and Trade

Following the 2002 Farm Act, peanut production declined in the Southwest and Mid-Atlantic, but climbed in the Southeast...

...where peanut production had traditionally been a relatively big part of the agricultural economy\*

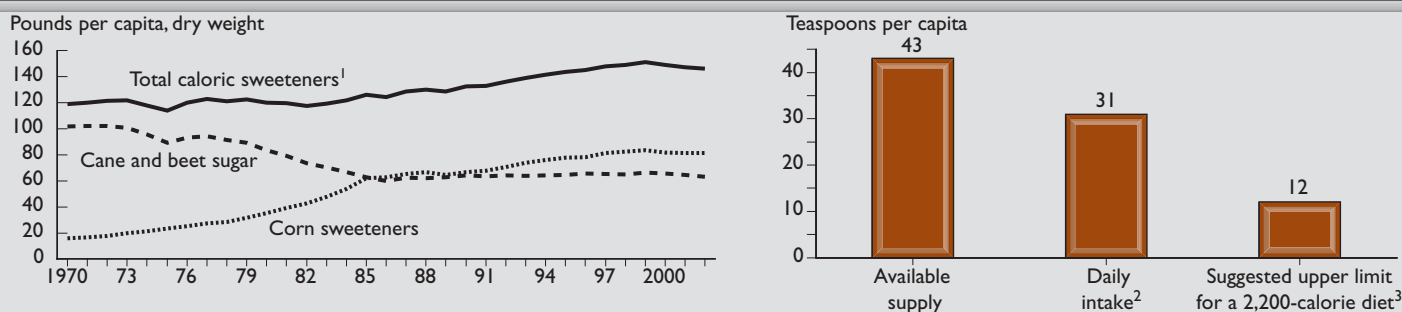


\* Peanut share of State's overall value of agricultural output, pre-2002 Farm Act (2000/01-2001/02 average).  
Source: USDA's National Agricultural Statistics Service, *Acreage, Crop Production, and Crop Values, 2002 Summary*.

## Diet and Health

While fairly steady during the 1970s, U.S. per capita caloric sweetener consumption jumped 25 percent between 1982 and 2002...

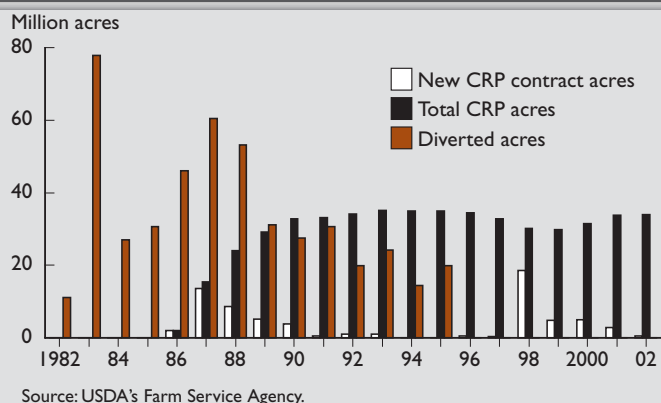
...to the point where per capita daily intake was two and a half times the suggested upper limit for a 2,200-calorie diet



<sup>1</sup>Includes honey and edible syrups not shown separately. <sup>2</sup>Daily intake is the available supply adjusted for spoilage, plate waste, and other losses.  
<sup>3</sup>The Food Guide Pyramid, Center for Nutrition Policy and Promotion, USDA, 1996.

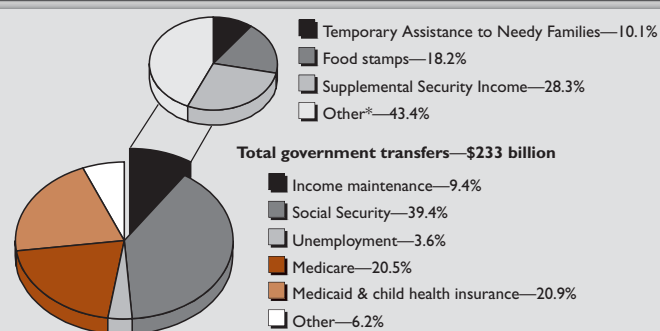
## Resources and Environment

As CRP enrollment expanded, there was a decline in diversion of other cropland from production



## Rural America

In 2002, income maintenance was less than 10 percent of government transfers to nonmetro residents



\*Consists largely of general assistance, refugee assistance, foster home care and adoption assistance, earned income tax credits, and energy assistance.  
Source: Calculated by ERS using data from the Bureau of Economic Analysis.

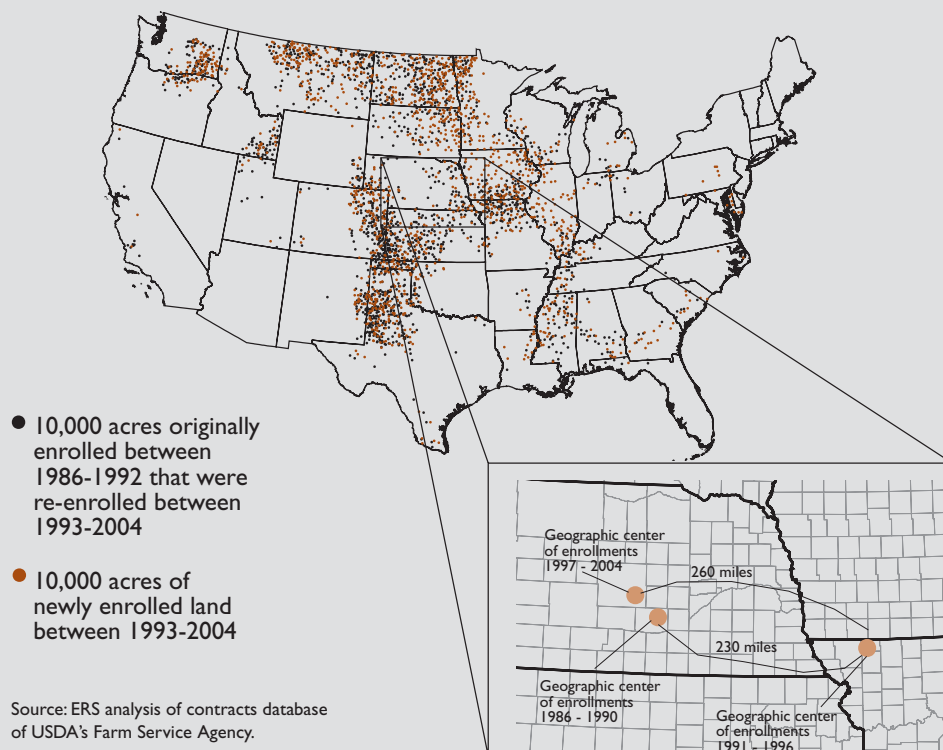
## On the Map

### Conservation Reserve Program (CRP) enrollments shift geographically.

Today, nearly 35 million acres of environmentally sensitive cropland are enrolled in the CRP. Total acreage hasn't changed much since 1990, but the geographic distribution of enrolled acres has shifted. About half of current CRP land is re-enrollment of land originally enrolled between 1986 and 1992; the remainder is newly enrolled land. The distribution shifted eastward between 1991 and 1996 as new bid selection rules encouraged Corn Belt land enrollment. As original CRP contracts started expiring in 1997, enrollment shifted westward as commodity market conditions and bid selection rules led to increased enrollment in the Northern Plains and less re-enrollment in the Southeast.

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### CRP Enrollment, 2004



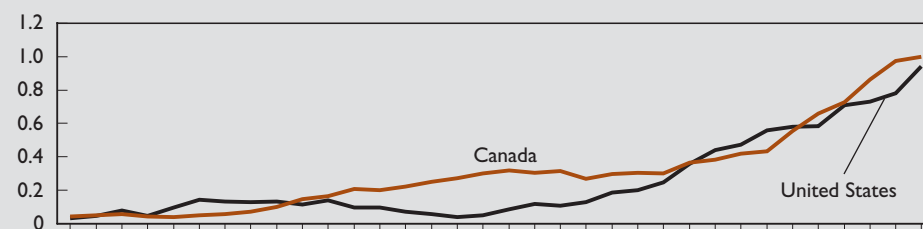
## In the Long Run

### Canadian pork exports surge when Canadian dollar is weak relative to U.S. dollar.

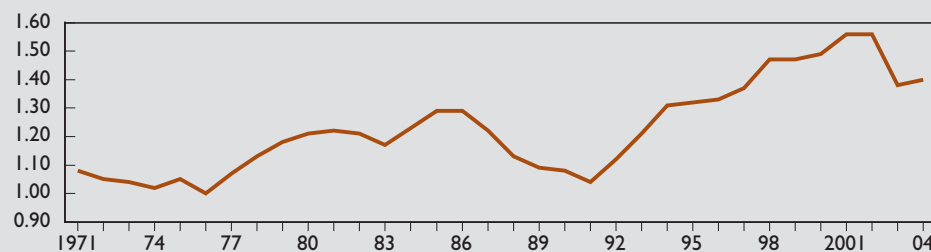
The U.S. and Canada have become the world's two dominant pork-exporting countries over the last 34 years, accounting for over 40 percent of world pork trade in 2003. Over that period, a generally weak real Canadian dollar (adjusted for inflation) has helped Canadian pork exports. In general, Canadian pork exports have increased more rapidly than U.S. pork exports during periods characterized by a weak Canadian dollar (1977-86; 1992-2002), and U.S. pork exports have increased more rapidly than Canadian exports during periods of a strong Canadian dollar (1971-76; 1987-91; 2003-04).

**Dale Leuck,** dleuck@ers.usda.gov

### Pork exports (million tons)



### Real Canadian dollar per U.S. dollar (base year = 2000)



Source: USDA's Foreign Agricultural Service, Production, Supply & Distribution database and ERS agricultural exchange rate data set.

# Recent Meetings

## Decoupled Payments and Farm Sector Models

In October 2004, ERS and the Farm Foundation cosponsored the workshop "Modeling Decoupled Payments," which focused on including payments not directly linked to market prices or farm production, known as decoupled payments, in farm sector models. Presenters from ERS, academia, international organizations, and private industry discussed recent changes to agricultural policy in the U.S. and the European Union and alternative approaches to modeling to address challenges posed by decoupled payments. **Mary Anne Normile**, [mnormile@ers.usda.gov](mailto:mnormile@ers.usda.gov), and **Paul Westcott**, [westcott@ers.usda.gov](mailto:westcott@ers.usda.gov)

## Demand for Grain-Based Foods

In September 2004, ERS and the Farm Foundation cosponsored a workshop titled "Understanding Demand Shifts for Grain-Based Foods" in Minneapolis, MN. The workshop was hosted by The Food Industry Center of the University of Minnesota. About 50 participants from the food industry, government, the media, and academia shared information on the effects of current consumer trends and nutrition issues on demand for grain-based foods. Participants also discussed how different data sources can contribute to the assessment and monitoring of consumption trends. Presentations by ERS economists addressed U.S. per capita food availability and intake and how intake estimates vary by demographic categories. **Jean Buzby**, [jbuzby@ers.usda.gov](mailto:jbuzby@ers.usda.gov)

## A New ERS Lecture Series

In September 2004, ERS inaugurated the Henry C. Taylor Lecture series. A pioneer in the field of agricultural economics, Taylor helped to create the Bureau of Agricultural Economics, the predecessor of ERS, and served as its first director. Professor Jagdish Bhagwati, noted international trade economist at Columbia



**Henry C. Taylor**

University, delivered the first Taylor Lecture. In his talk, "In Defense of Globalization," Bhagwati shared observations on the outcomes of World Trade Organization negotiations and insights on outsourcing and other related current economic issues. Recognizing that Taylor was also the first leader of the Farm Foundation, the event concluded with a presentation of the Taylor Commemorative Plaque to Bhagwati by current Farm Foundation President Walt Armbruster. A reception followed honoring former leaders of ERS, including Ken Farrell, John Lee, and J.B. Penn. This annual lecture series is designed to promote discourse on contemporary economic issues of interest to agricultural economists within and outside ERS and USDA. **Susan Offutt**, [soffutt@ers.usda.gov](mailto:soffutt@ers.usda.gov)



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# New Releases

## Ownership and Classification of Agbiotech Patents

Researchers from ERS and Rutgers University have compiled a database of over 11,000 U.S. utility patents issued between 1976 and 2000 for a broad range of agricultural biotechnology applications ([www.ers.usda.gov/data/agbiotechip/](http://www.ers.usda.gov/data/agbiotechip/)). The database includes a system of technology classification and extensive information on patent assignee ownership history—especially important in light of the large number of industry mergers, acquisitions, and spinoffs in the last decade. The database was assembled to help science policy researchers understand the dynamic effects of intellectual property protection in emerging areas of technology, but

also to provide a useful picture of "who is doing what" in agbiotech. **John King**, [johnking@ers.usda.gov](mailto:johnking@ers.usda.gov), and **Paul Heisey**, [pheisey@ers.usda.gov](mailto:pheisey@ers.usda.gov)

## Farm Income Estimates and Forecasts

ERS has released updated estimates of 2003 farm income. Net farm income, which is a measure of the sector's profitability, was a record \$59.2 billion in 2003, up 59 percent from the \$37.3 billion earned in 2002, and about 24 percent above the average of the preceding 10 years. Net cash income, which gives an indication of cash income generated from the farm business, was estimated at a record \$68.6 billion in 2003, up 35 percent from the \$50.8 billion earned in 2002 and

about 20 percent above the 10-year average. The farm sector was estimated to have contributed a record \$101.4 billion in value-added to U.S. national economic output in 2003, up 29 percent from 2002 and 16 percent above the 10-year average. Farm income forecasts for 2004 will be updated on November 9 ([www.ers.usda.gov/briefing/farmincome/](http://www.ers.usda.gov/briefing/farmincome/)). **Roger Strickland**, [rogers@ers.usda.gov](mailto:rogers@ers.usda.gov)

The citations here and in the rest of this edition are just a sample of the latest releases from ERS. For a complete list of all new ERS releases, view the calendar on the ERS website: [www.ers.usda.gov/calendar/](http://www.ers.usda.gov/calendar/)

# Activities

## Customized Agricultural Resource Management Survey Data on ERS Website

As of November 9, visitors to the ERS website can create tailor-made summaries of data on crop production practices, commodity costs of production, and farm and farm household financial information ([www.ers.usda.gov/briefing/arms/](http://www.ers.usda.gov/briefing/arms/)). Newly available data from the Agricultural Resource Management Survey (ARMS) will allow users to tabulate data for the Nation, as well as for 15 featured States with high cash returns from farming. **Robert Dubman**, [bdubman@ers.usda.gov](mailto:bdubman@ers.usda.gov)

## ERS Awards Grants for Research on the Economics of Invasive Species Management

ERS recently made seven competitive funding awards totaling \$1.1 million for research on the economics of invasive species management. Research will focus on three areas: (1) stakeholders and incentives for efficient invasive species program management, (2) practical decision tools for invasive species management, and (3) trade and invasive species. Award recipients and details of their planned research are available on the ERS website ([www.ers.usda.gov/briefing/invasivespecies/preism.htm](http://www.ers.usda.gov/briefing/invasivespecies/preism.htm)). **Donna Roberts**, [droberts@ers.usda.gov](mailto:droberts@ers.usda.gov), and **Craig Osteen**, [costeen@ers.usda.gov](mailto:costeen@ers.usda.gov)

## Agricultural Resource Management Survey Promoted on RFD-TV

In September 2004, Kitty Smith, ERS Resource Economics Division Director, and Rich Allen, NASS Deputy Administrator for Programs and Products, were interviewed by Max Armstrong on a live telecast on RFD-TV. The interview explored the purposes and uses of USDA's Agricultural Resource Management Survey (ARMS), and informed farmers about the value of the information collected in the survey. ARMS surveys are being readied to go into the field this winter. Two 30-second Public Service Announcements about ARMS were also recorded for airing throughout the year. **Kitty Smith**, [ksmith@ers.usda.gov](mailto:ksmith@ers.usda.gov)

## Baby Boomers Increasingly Move to Rural Areas

The oldest members of the baby boom cohort are now 58 years old, just entering the stage in their lives when they tend to migrate for retirement. Current research shows that baby boomers are shifting toward rural and small town destinations, but they seem to be attracted to a more diverse set of destinations, compared with older cohorts. Researchers from ERS and Vermont's Middlebury College are conducting a study to gauge the impacts of baby boomer retirement migration on rural and small town America. The study will examine how demographic, natural amenity, housing market, urban proximity, and economic factors affected the migration flows of baby boomers into rural areas during the 1990s. Findings will also help researchers to better predict the future migration patterns of baby boomers over the next 20 years. **John Cromartie**, [jbc@ers.usda.gov](mailto:jbc@ers.usda.gov)



## Improvements in Pesticide Data

In September 2004, ERS economist Jorge Fernandez-Cornejo participated in the kickoff meeting of the Pesticide Data Subcommittee of the Advisory Committee on Agriculture Statistics (ACAS) in Washington, DC. The subcommittee, composed of government, academic, and industry representatives, was established to explore improvements and efficiencies in the data collection of pesticide use in agricultural and nonagricultural applications. These improvements would include analysis, processing, and communication of crop protection product information. **Jorge Fernandez-Cornejo**, [jorgef@ers.usda.gov](mailto:jorgef@ers.usda.gov)

## Keeping Agricultural Market Access Data Current

The Agricultural Market Access Database (AMAD) is a collaboration among national and international research institutions, including ERS, to provide an up-to-date, comprehensive source for data on agricultural tariffs and tariff rate quotas. In September 2004, Agriculture and Agri-Food Canada hosted a meeting of AMAD members to discuss potential enhancements to the database, including adding tariff preferences for developing countries and integrating AMAD with the World Bank/United Nations Conference on Trade and Development data system in order to provide easy access to developing countries. **John Wainio**, [jwainio@ers.usda.gov](mailto:jwainio@ers.usda.gov)



## Donna Roberts

Sanitary and phytosanitary (SPS) regulations moved to the fore of trade policy debates in the 1990s as a result of a 1995 World Trade Organization (WTO) agreement that set out new science-based rules to dissuade countries from using animal, plant, or human health measures as barriers to trade. Compliance with these new rules required changes to a number of countries' SPS regulations, which led Donna Roberts, a senior ERS economist, to study the effects of the changes on producers, consumers, and trade. Through her early efforts, which included an analysis of rescinding the U.S. ban on imported Mexican avocados, she encountered significant analytical challenges. "Both the conceptual foundation and empirical methods for analyzing regulatory barriers to trade required further development," says Donna. For example, the avocado analysis required integrating a risk assessment with a standard trade model in order to gauge the effect of relaxing the U.S. ban under different pest infestation scenarios. Moreover, lack of data required her analysis to proceed on a case-by-case basis, rather than a more comprehensive approach.

Since the 1995 agreement, the focus of trade policy debates over individual countries' SPS regulations has broadened to include the international rules that govern their use. For some WTO members, the emergence of new production technologies, new diseases, and new consumer demands called into question the adequacy of the WTO's rules. Some countries called for less stringent science requirements than those set out in the agreement. Others argued that the rules allowed sufficient latitude for regulation even under scientific uncertainty. In 1996, amid this growing debate, Donna began a detail at the U.S. Trade Representative's Permanent Mission to the WTO, where she had a front-row seat to trade negotiations in Geneva, Switzerland, and witnessed firsthand the need for economic analysis to inform the debate. Her timely research pointed the way toward policy reforms that would promote the adoption of cost-effective SPS regulations.

Since returning from Geneva, Donna has continued her research on these issues, contributing to an ERS report, *International Trade and Food Safety* (AER-828), and co-authoring a book, *Food Regulation and Trade: Toward a Safe and Open Global System*. Donna is now working with other USDA officials to develop a comprehensive database for the further study of SPS issues, enabling researchers to venture beyond case studies toward more broad-based research. She also co-directs an ERS program that funds extramural research on the effects of invasive species regulation in today's increasingly global markets.



## James MacDonald

Jim MacDonald views his current position at ERS as chief of the Agricultural Structure and Productivity Branch as an extension of his long-held interest in the organization of agribusiness and its impacts on farmers and consumers. With production in U.S. agriculture shifting toward large family farms, Jim and his colleagues are exploring the changing relationships between farmers and their buyers, including the increasing reliance on contracts. In hog production, for example, producers commonly enter contracts stipulating producer tasks and compensation formulas for raising hogs before commencing production. The questions raised by these contractual relationships are explored in *Contracts, Markets, and Prices: Organizing the Production and Use of Agricultural Commodities* (AER-837).

Jim joined ERS in 1980. His interest in the nature of competition and its impacts on prices, productivity, and product quality drives most of his work. Recently, he worked with the U.S. Department of Justice (DOJ) to evaluate the likely effects on competition resulting from Cargill's acquisition of Continental Grain's domestic grain elevators. DOJ approved the merger after the participants agreed to divest certain key facilities in concentrated markets.

Jim also led a series of studies assessing the causes of consolidation in meatpacking. Jim and his colleagues attribute this consolidation to changes in technology and labor relations that provided large plants with important cost advantages, and to strong price competition that drove high-cost plants from the industry. His study of the procurement of food products for the National School Lunch Program showed how USDA purchase practices induced intense competition among processors, resulting in low product prices, but also contributing to lapses in service quality, in the form of late deliveries.

In June 2001, Jim received USDA's Secretary's Honor Award for "leading cutting-edge research on concentration and competition in food markets allowing policymakers to make informed decisions based on better understanding of industry structure." Jim is an associate editor for the *American Journal of Agricultural Economics* and *Agribusiness*, and he serves on the Awards Committee for the American Agricultural Economics Association.

